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ABSTRACT

This document is the second of two volumes reporting the results of the 1990 surveys, and all previous surveys, from the Monitoring the Future study of American high school students and young adults. Volume II presents the results of the annual follow-up surveys of representative samples of previous participants from each high school senior class going back to the Class of 1976. The time period covered by this volume is 1977 through 1990, encompassing the graduating classes of 1976 through 1989. In order for this volume, which begins with chapter 11, Introduction to Volume II, to stand alone, material from two chapters of Volume I is repeated in chapter 12, Overview of Key Findings, and chapter 13, Study Design and Procedures. Chapters 14 through 17 focus on findings from post-high school young adults, looking at the prevalence of drug use, trends in drug use, attitudes and beliefs about drugs, and the social milieu of young adults. Chapters 18 and 19 concentrate on college students, examining the prevalence of, and trends in, drug use in this population. Trends over the past decade are reported that show appreciable declines in the use of a number of illicit drugs among seniors, American college students and young adults. These trends are interpreted cautiously and it is emphasized that improvements cannot be taken for granted. Twenty-six data tables and 48 figures are included throughout the document. (NB)

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National Institute on Drug Abuse

DRUG USE AMONG AMERICAN HIGH SCHOOL SENIORS, COLLEGE STUDENTS AND YOUNG ADULTS, 1975-1990

Volume II

College Students and Young Adults

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DRUG USE AMONG AMERICAN HIGH SCHOOL SENIORS, COLLEGE STUDENTS AND YOUNG ADULTS, 1975-1990

Volume II

College Students and Young Adults

by

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Preface

This volume is the second of two volumes presenting the results of the 1990 Monitoring the Future surveys. In the past the results of both the high school senior survevs and follow-up surveys of panels drawn from previous graduating senior classes have been presented in the same volume. However, this causes a delay in reporting the findings from seniors because the follow-up data collections are not completed until the summer of each year, whereas the senior data are collected by June. Senior data (and, beginning next year, data from 8th and 10th grade students) can be presented earlier with publication of two volumes. There are many readers, in fact, who are interested [only] primarily in these results from secondary school students. In addition, the growing awareness of drug use on the nation's campuses has resulted in an increasing number of readers who are interested in the results from college students, and for whom the results of seniors are less relevant. These readers can now order Volume II separately. In order minimize confusion for those readers who use both volumes, all tables, figures, and chapters are numbered sequentially across the two volumes, as they were in the past, in the single combined volume.

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Chapter 11

INTRODUCTION TO VOLUME II

This is the second volume in a two volume set reporting the results of the 1990 surveys, as well as all of the previous surveys, from the Monitoring the Future study of American high school students and young adults. Monitoring the Future is a long-term research program conducted at the University of Michigan's Institute for Social Research under a series of research grants from the National Institute on Drug Abuse. It is comprised of an ongoing series of annual national surveys of American *high school seniors* begun in 1975--the results of which are presented in Volume I--as well as a series of annual *follow-up surveys* of representative samples of the previous participants from each high school senior class going back to the Class of 1976. (In 1991, the study is being expanded to cover eighth and tenth grade students.) This volume presents the results of the follow-up surveys, covering the time period 1977 through 1990 and encompassing the graduating classes of 1976 through 1989 as they have progressed through young adulthood .

In order for this volume to stand alone, a small amount of material from Volume 1 is repeated here for the reader who does not have it. Specifically, chapter 12 in this volume is the same as chapter 2, Volume I, and gives an overview of the key findings presented in both volumes. chapter 13, Study Design and Procedures, also draws almost entirely from Volume I, chapter 3. Therefore, the reader who has already read Volume I will want to skip over these chapters. Otherwise, the content of these two volumes does not overlap.

COLLEGE STUDENTS

Of particular importance, the follow-up samples in Monitoring the Future provide very good coverage of the national college student population since 1980. College students are a difficult population to study because they are not well covered in normal household surveys which exclude dormitories, fraternities, and sororities from the universe covered. Further, it requires large and cumbersome institution-based samples to get accurate national representation, since there is such great heterogeneity in the student populations in those institutions. The current study, which in essence draws the college sample in senior year of high school, has considerable advantages for generating a broadly representative sample of the college students to emerge from each graduating cohort. The college student population, as defined here, is comprised of all full-time students enrolled in a two-or four-year college in March during the year of the survey. More will be said about this sample definition in chapters 13 and 18. Results on the *prevalence* of drug use among college students in 1990 are reported in chapter 18. The 1990 study constitutes the eleventh national survey of American college students in this series, and chapter 19 presents the *trends* in substance use among college students over the past decade.

YOUNG ADULTS

The young adult sample reported here, which includes the college students, is comprised of representative samples from each graduating class since 1976. Since 18 is the modal age of high school seniors, the young adults covered here correspond to modal ages 19 through 32. While it is possible to re-weight the respondents to correct for the effects of panel attrition on measures such as drug use (and that has been done here), we are less able to make accurate adjustments for the absence of high school dropouts who were not included in the original high school senior sample. Because nearly all college students have completed high school, the omission of dropouts should have almost no effect on the college student estimates, but this omission does have an effect on the estimates for entire age groups. Therefore, the reader is cautioned that the omission of the 15% to 20% of each cohort who drop out of high school will make the drug use estimates given here for the various young adult age bands somewhat low for the age group as a whole. The proportional effect may be greatest for some of the most dangerous drugs such as heroin and crack; and also for cigarettes—the use of which is most correlated with educational aspirations and attainment.

GENERAL PURPOSES OF THE RESEARCH

Chapter 1, Volume I, discusses the research purposes of the Monitoring the Future study at some length; they are only sketched briefly here. One of these purposes is a social monitoring or social indicator function, which is intended to characterize accurately the levels and trends in certain behaviors, attitudes, beliefs, and conditions in the population. This is one of the purposes to which the current series of volumes most closely relates. Another is to try to develop knowledge which increases our understanding of why those changes are taking place. (In the health-related disciplines such work is usually labeled as epidemiology.) There are a number of other purposes for the research, however, which are addressed through other types of publications and professional products. They include: helping to determine what types of young people are at greatest risk for developing various patterns of drug abuse: gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use, and monitoring how those orientations are shifting over time; determining the immediate and more general aspects of the social environment which are associated with drug use and abuse; determining how drug use is affected by major transitions in social environment (such as entry into military service, civilian employment, college, unemployment) or in social roles (marriage, parenthood); determining the life course of the various drug using behaviors during this period of development; distinguishing such "age effects" from cohort and period effects in determining drug use; determining the effects of social legislation on various types of substance use; and determining the changing connotations of drug use and changing patterns of multiple drug use among youth. We believe that the differentiation of period, age, and cohort effects in substance use of various types has been a particularly important contribution of the project; its cohort-sequential research design is especially well-suited to allow such differentiation. Readers interested in publications dealing with any of these other areas should write the authors at the Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 48106–1248.

Chapter 12

OVERVIEW OF KEY FINDINGS

This two-volume monograph reports findings from the ongoing research and reporting project entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth. Each year since 1975, in-school surveys of nationally representative samples of high school seniors have been conducted. (Beginning in 1991 data on 8th and 10th graders also will be gathered.) In addition, in each year since 1977, representative subsamples of the participants from each previous graduating class have been surveyed by mail.

Findings on the prevalence and trends in drug use and related factors are reported in these volumes for high school seniors and also for young adult high school graduates 19–32 years old. Trend data are presented for varying time intervals, covering up to fifteen years in the case of the high school senior population. For college students, a particularly important subset of this young adult population on which there currently exist no other nationally representative data, we present detailed prevalence and trend results (since 1980) in Volume II of this report. The high school dropout segment of the population—about 15%–20% of an age group—is of necessity omitted from the coverage of all three populations, though this omission would have little effect on the coverage of college students. An appendix to Volume I of this report discusses the likely impact of omitting dropouts from the sample coverage.

A number of important findings emerge from these three national populations—high school seniors, college students, and all young adults through age 32 who are high school graduates. They have been summarized and integrated here so that the reader may quickly get an overview of the key results. However the detailed findings on high school students are presented in Volume I of this report, which was published a few months prior to Volume II.

TRENDS IN ILLICIT DRUG USE

- In 1990 we saw a continuation of the longer-term gradual decline in the proportion of all three populations involved in the use of ***any illicit drug***, with the proportion reporting use in the past year among high school seniors dropping from the 1989 level by 3% (to 33% in 1990); among college students also dropping by 3% (to 33% in 1990) and among all young adults 19 to 28 by 2% (to 31% in 1990).

  The proportion of these populations using ***any illicit drug other than marijuana*** in the prior year also fell, by 2% among seniors (to 18% in 1990), by 1% among college students (to 15%), and by

2% among all young adults (to 17%). Clearly, despite the improvements, large proportions of our young people are fairly recent users of drugs which are for the most part both illegal and dangerous.

- The use of ***crack*** cocaine appeared to level in 1987 at relatively low prevalence rates, at least within these populations. (This occurred despite the fact that the crack phenomenon continued a process of diffusion to new communities that year.) In 1990, lifetime prevalence for seniors continued to decline (to 3.5%, down from 5.4% in 1987), and annual prevalence declined to 1.9% (down from 3.9% in 1987). Among young adults one to ten years past high school, lifetime prevalence is slightly higher (5.1%) and annual prevalence is slightly lower (1.6%) than among seniors, and both statistics reflect declines since 1988.

  In 1990, college students one to four years past high school showed an annual prevalence of 0.6% (down from 2.0% in 1987 and down significantly in 1990 from the 1989 figure of 1.5%). Their annual prevalence is now a fraction of that observed among their age-mates not in college (1.8%). (In high school annual crack prevalence among the college-bound is also lower than among those not bound for college [1.2% vs. 3.5%].)

  In terms of regional differences in crack use, annual prevalence among seniors remains highest in the West (2.7%), followed by the Northeast (2.0%), the South (1.8%), and the North Central (1.6%). All regions exhibited a decline. Use is now lowest in the large cities (1.6%), with both the nonmetropolitan areas and the smaller cities at 2.0%.

  We believe that the particularly intense media coverage of the hazards of crack cocaine, which took place quite early in what could have been a considerably more serious epidemic, likely had the effect of "capping" that epidemic early by deterring many would-be users and by motivating many experimenters to desist use. While 3.5% of seniors report ever having tried crack, only 0.7% report use in the past month, indicating noncontinuation by 80% of those who try it. The overall downward trend can be explained both in terms of lower initiation rates among students and higher noncontinuation rates.

- ***Cocaine*** in general began to decline a year earlier than crack, the annual prevalence rate between 1986 and 1987 dropping by roughly four-tenths in all three populations studied.[1] As we had predicted earlier, the decline occurred when young people began to see experimental and occasional use as more dangerous; and this happened by 1987, probably partly because the hazards of cocaine

[1]Unless otherwise specified, all references to "cocaine" refer to the use of cocaine in any form, including crack.

use received extensive media coverage in the preceding year, but almost surely in part because of the cocaine-related deaths in 1986 of sports stars Len Bias and Don Rogers.

In 1990 this broad decline continued, with annual prevalence falling from 6.5% to 5.3% among seniors, from 10.8% to 8.6% among young adults one to ten years past high school, and from 8.2% to 5.6% among college students. In sum, annual prevalence of cocaine use has how fallen by a half to two-thirds among all three populations.

The perceived risk of using cocaine generally and crack in particular, has continued to climb among both seniors and young adults as has peer disapproval of use. Through 1989 there was no decline in perceived availability: in fact, it continued to rise steadily after 1984, which suggests that decreased availability played no role in bringing about the substantial downturn in use. In 1990, however, perceived availability dropped by about 4% for the first time among both seniors and young adults.

As with all the illicit drugs, lifetime cocaine prevalence climbs with age, actually exceeding 40% by age 27. Unlike all of the other illicit drugs, active use—i.e., annual prevalence or monthly prevalence—also climbs substantially after high school.

- The declines in crack and cocaine use in 1990 were accompanied by a further decline for a number of other drugs as well. The annual prevalence of ***marijuana*** use among seniors continued its long decline, and fell significantly to the lowest level since the study began (27%, down 2.6% from 1989 and down from a peak level of 51% in 1979.) A similar decrease occurred among college students (29%, down 4.2% and down from a peak level of 51% in 1980) and among all young adults one to ten years past high school (down 2.9% to 26%; data before 1986 not available). ***Daily marijuana use*** among seniors also fell significantly (down 0.7% to 2.2%), young adults (down 0.7% to 2.5%), and college students (down 0.9% to 1.7%). For seniors this represents a three-fourths overall drop in daily use from the peak level of 10.7%, observed in 1978. College students have dropped by three-fourths from our first reading of 7.2% in 1980.

- Another widely used class of illicit drugs showing an important shift in 1990 is ***stimulants***. Declines in use continued among all three populations in 1990 as part of a longer-term trend that began in 1982. Since 1982, annual prevalence has fallen from 20% to 9% among seniors and from 21% to 5% among college students. Annual prevalence is also 5% among young adults, but long-term trends are not yet available for 19–28 year olds.

- Concurrent with this drop in illicit amphetamine use is an increase in the use of over-the-counter ***stay-awake pills***, which usually contain caffeine as their active ingredient. Their annual prevalence among seniors doubled in seven years, from 12% in 1982 to 23% in 1990. Increases have also occurred among the young adults (where annual prevalence is up by about one-third, from 14% to 21%, among the 19 to 22 year olds).

  The other two classes of nonprescription stimulants—the ***"look-alikes"*** and the over-the-counter ***diet pills***—have actually shown some fall-off among both seniors and young adults in recent years. Still, among seniors some 28% of the females have tried diet pills by the end of senior year, 17% have used them in the past year, and 7% in just the past month.

- ***LSD*** use has been fairly constant in recent years in all three populations, following a period of some decline. However, all three did show some increase in 1990. Annual prevalence in 1990 is 5.4% among seniors, 4.3% among college students, and 3.3% among young adults.

- ***PCP*** use fell sharply, from an annual prevalence of 7.0% in 1979 to 2.2% in 1982 among high school seniors. It reached a low point of 1.2% in 1988, increased a bit to 2.4% in 1989, and then fell again to its low point of 1.2% in 1990. It is now only 0.2% for the young adults.

- The annual prevalence of ***heroin*** use has been very steady since 1979 among seniors at 0.5% to 0.6%. (It had earlier fallen from 1.0% in 1975.) The heroin statistics for young adults and college students have also remained quite stable in recent years at low rates (about 0.1% to 0.2%).

- The use of ***opiates other than heroin*** has been fairly level over most of the life of the study. Seniors have had an annual prevalence rate of 4% to 6% since 1975. Young adults in their twenties have generally shown a similar cross-time pattern. But even for this class of drugs there was a significant, though modest, decline in 1988 from 5.3% to 4.6% in annual prevalence among seniors; the 1990 figure is 4.5%.

- A long and substantial decline, which began in 1977, has occurred for ***tranquilizer*** use among high school seniors. Annual prevalence now stands at 3.5% compared to 11% in 1977. Annual prevalence among young adults declined to 3.7% and to 3.0% among college students.

- The long-term gradual decline in ***barbiturate*** use, which began at least as early as 1975, when the study began, halted in 1989; the annual prevalence among seniors fell to 3.3%, compared to 10.7%

in 1975. It remains at 3.4% in 1990. Annual prevalence of this class of sedative drugs is even lower among the young adult sample (1.9%), and lower still among college students (1.4%).

- ***Methaqualone***, another sedative drug, has shown quite a different trend pattern. Its use rose steadily among seniors from 1975 to 1981, when annual prevalence reached 8%. It then fell rather sharply to 0.7% by 1990. Use also fell among all young adults and college students, who had annual prevalence rates of only 0.3% and 0.2%, respectively in 1989—the last year in which they were asked about this drug. In recent years, shrinking availability may well have played a role in this drop, as legal manufacture and distribution of the drug ceased.

- In sum, the three classes of illicitly used drugs which have had an impact on appreciable proportions of young Americans in their late teens and twenties are ***marijuana***, ***cocaine***, and ***stimulants***. Among high school seniors the annual prevalence rates in 1990 are 27%, 5%, and 9%, respectively. Among college students the comparable annual prevalence rates in 1990 are 29%, 6%, and 5%; and for all high school graduates one to ten years past high school (the "young adult" sample) the rates are 26%, 9%, and 5%.

Age-Related Differences

- A number of additional interesting findings emerge from the chapters in this report dealing with age-related changes in use. One is that, with the important exceptions of cigarettes and alcohol use, rather little ***illicit drug*** use is initiated by sixth grade, according to seniors. However, use of either alcohol or cigarettes is illicit for children this age: still, some 19% already had initiated ***cigarette*** use and 11% ***alcohol*** use by sixth grade. Of the illicit drugs, ***marijuana*** and ***inhalants*** show the earliest pattern of initiation; about 2.8% of the 1990 seniors had initiated use of each of these drugs by sixth grade. But the peak initiation rate is soon reached—by 9th grade—in the case of both of these drugs. Among seniors, peak initiation rates for ***cocaine*** and ***hallucinogens*** are reached in tenth and eleventh grade, with the initiation rate for nearly all drugs falling off by twelfth grade.

  It is interesting to note that the already high proportion of young people who by senior year have at least tried ***any illicit drug*** grows substantially larger up through the mid-twenties. For example, in the classes of 1976 through 1979, 58–65% had used ***any illicit drug*** by their senior year. In 1990, when they were in their late twenties and early 30's, roughly 80% of them had done so. There was a similar rise in the proportion of them who had used ***any illicit other than marijuana***—from roughly 36% when they were seniors to about 60% by 1990, when they were in their late twenties and early 30's. ***Cocaine*** use increased from 10–15% in senior year to roughly 40% by 1990.

Largely as a result of this, when we do a comparison across all age groups surveyed in 1990, we find that lifetime prevalence for most drugs is much higher in the older age groups than the younger ones. On the other hand, *active* illicit drug use among the older age groups has tended to approximate the levels observed among seniors. This has been true for the annual prevalence of ***any illicit drug***, ***marijuana***, and ***tranquilizers***. It also has been true for ***daily marijuana use***. In fact, the young adult sample actually has lower rates of annual prevalence than high school seniors on seven drugs—the ***inhalants***, ***LSD***, ***methaqualone***, ***barbiturates***, ***stimulants***, ***heroin***, and ***opiates other than heroin***. ***Cocaine***, of course, is the exception in that its active use rises until about age 25, where it reaches a plateau and thereafter may decline.

College-Noncollege Differences

- ***American college students*** (defined here as those respondents one to four years past high school who were actively enrolled full-time in a two- or four-year college) show annual usage rates for a number of drugs which are about average for their age, including ***any illicit drug***, ***marijuana*** (although their rate of ***daily marijuana use*** is about half what it is for the rest of their age group, i.e., 1.7% vs. 3.0%), ***inhalants***, ***hallucinogens***, ***heroin***, and ***opiates other than heroin***. For several categories of drugs, however, college students have rates of use which are below those of their age peers, including ***any illicit drug other than marijuana***, ***cocaine***, ***crack*** cocaine specifically, ***LSD***, ***stimulants***, and ***barbiturates***. The rate of ***MDMA*** is higher among college students.

  Since college-bound seniors had below average rates of use on all of these illicit drugs while they were in high school, their eventually attaining parity on some of them reflects some closing of the gap. As results from the study published elsewhere have shown, the "catching up" may be explained by differential rates of leaving the parental home and of getting married than in terms of any direct effects of college *per se*. College students are more likely to have left the parental home and less likely to have gotten married than their age peers.

- In general, the trends since 1980 in illicit substance use among American college students have been found to parallel those of their age peers not in college. That means that for most drugs there has been a decline in use over the interval. Further, all young adult high school graduates through age 28, as well as college students taken separately, show trends which are highly parallel for the most part to the trends among high school seniors, although declines in the active use of many of the drugs over the past half decade have been proportionately larger in these two older populations than among high school seniors.

Male-Female Differences

- Regarding sex differences in the three populations, males are more likely to use ***most illicit drugs***, and the differences tend to be largest at the higher frequency levels. ***Daily marijuana use*** among high school seniors in 1990, for example, is reported by 3.2% of males vs. 1.0% of females; among all young adults by 3.7% of males vs. 1.6% of females; and among college students, specifically, by 2.7% of males vs. 0.9% of females. The only exceptions to the rule that males are more frequently users of illicit drugs than females occur for ***stimulant, sedative*** and ***tranquilizer*** use in high school, where females are at the same level or slightly higher. The sexes also attain near parity on stimulant and tranquilizer use among the college and young adult populations.

- Insofar as there have been differential trends for the two sexes among any of these populations, they have been in the direction of a diminution of differences between the sexes. For college students, previous differences in the usage rates for ***methaqualone***, ***LSD*** and ***daily marijuana*** have declined as the prevalence rates for both sexes converge toward zero (which means that use by males has fallen more). The same is happening for daily marijuana use among young adults generally, as well as high school seniors. There is also some convergence between the sexes in ***stimulant*** use among all three populations. The convergence is again due to a greater drop in use among males.

TRENDS IN ALCOHOL USE

- Regarding ***alcohol*** use in these age groups, several findings are noteworthy. First, despite the fact that it is illegal for virtually all high school students and most college students to purchase alcoholic beverages, experience with alcohol is almost universal among them (90% of seniors have tried it) and active use is widespread. Most important, perhaps, is the widespread occurrence of ***occasions of heavy drinking***—here measured by the percent reporting five or more drinks in a row at least once in the prior two-week period. Among seniors this statistic stands at 32% and among college students it stands at 41%.

- Regarding trends in alcohol use, during the period of recent decline in the use of marijuana and other illicit drugs, it appears that there was no "displacement effect" in terms of any increase in alcohol use among seniors. If anything, the opposite seems to be true. Since 1980, the monthly prevalence of alcohol use among seniors has gradually declined, from 72% in 1980 to 57% in 1990. ***Daily use*** declined from a peak of 6.9% in 1979 to 3.7% in 1990; and the prevalence of drinking ***five or more drinks in a row*** during the prior two-week interval fell from 41% in 1983 to 32% in 1990.

College-Noncollege Differences

- The data from college students show a somewhat different pattern in relation to alcohol use. They show less drop off in monthly prevalence since 1980 (about 7%), and no clearly discernible change in ***daily use*** or in ***occasions of heavy drinking***, which is at 41% in 1990—higher than the 32% among high school seniors. Since their noncollege age peers have been showing a net decrease in occasions of heavy drinking since 1980, this has resulted in a divergence between the college and noncollege segments on this important dimension.

- The rate of 41% in ***occasions of heavy drinking*** is also higher than the rate observed among their age peers (i.e., those one to four years past high school) not in college (33%), which means that college students are well above average on this measure. Since the college-bound seniors *in* high school are consistently less likely to report occasions of heavy drinking than the noncollege-bound, this reflects their "catching up and passing" their peers after high school.

- In most surveys from 1980 onward, college students have had a ***daily drinking*** rate (3.8% in 1990) which is slightly lower than that of their age peers (4.9% in 1990), suggesting that they are somewhat more likely to confine their drinking to weekends, on which occasions they tend to drink a lot. The rate of daily drinking has fallen some among the noncollege group from 8.7% in 1981 to 4.9% in 1990.

Male-Female Differences

- There remains a quite substantial sex difference among high school seniors in the prevalence of ***occasions of heavy drinking*** (24% for females vs. 39% for males in 1990); this difference has been diminishing very gradually since the study began over a decade ago.

- There also remain very substantial sex differences in alcohol use among college students, and young adults generally, with males drinking more. For example, 50% of college males report having five or more drinks in a row over the previous four weeks vs. 34% of college females. However, there has been little change in the differences between 1980 and 1990.

TRENDS IN CIGARETTE SMOKING

- A number of important findings have emerged from the study concerning ***cigarette smoking*** among American adolescents and young adults. Of greatest importance is the fact that by late adolescence sizeable proportions of young people still are establish-

ing regular cigarette habits, despite the demonstrated health risks associated with smoking. In fact, since the study began in 1975, cigarettes have consistently comprised the class of substance most frequently used on a daily basis by high school students.

- While the ***daily smoking*** rate for seniors did drop considerably between 1977 and 1981 (from 29% to 20%), it has dropped very little in the nine years since (by another 1.2%), despite the appreciable downturn which has occurred in most other forms of drug use (including alcohol) during this period. And, despite all the adverse publicity and restrictive legislation addressed to the subject during the 1980's, the proportion of seniors who perceive "great risk" to the user of suffering physical (or other) harm from pack-a-day smoking has risen only 4% since 1980 (to 68% in 1990). That means that nearly a third of seniors still do not feel there is a great risk associated with smoking.

Age and Cohort-Related Differences

- Initiation of daily smoking most often occurs in grades 6 through 9 (i.e., at modal ages 11–12 to 14–15), with rather little further initiation after high school, although a number of light smokers make the transition to heavy smoking in the first two years after high school. Analyses presented in this volume and elsewhere have shown that cigarette smoking shows a clear "cohort effect." That is, if a class (or birth) cohort establishes an unusually high rate of smoking at an early age relative to other cohorts, it is likely to remain high throughout the life cycle.

- As we reported in the Other Findings from the Study chapter in the 1986 volume in this series, some 53% of the half-pack-a-day or more smokers in senior year said that they had tried to quit smoking and found they could not. Of those who were daily smokers in high school, nearly three-quarters were daily smokers 7 to 9 years later (based on the 1985 survey), despite the fact that in high school only 5% of them thought they would "definitely" be smoking 5 years hence. These data clearly show: (1) the smoking habit is established at an early age, (2) it is difficult for those young people who have the habit to break, and (3) young people greatly overrate their own ability to quit.

College-Noncollege Differences

- There exists a striking difference among high school seniors between the college-bound and those not college-bound in terms of smoking rates. For example, smoking half-pack-a-day or more is more than two times as prevalent among the noncollege-bound (19% vs. 8%). Among respondents one to four years past high school, those not in college show the same dramatically higher rate

of smoking compared to that found among those who are in college, with half-pack-a-day or more smoking standing at 20% and 8%, respectively.

Male-Female Differences

- In 1990, females have slightly higher probabilities of being daily smokers among college students and high school seniors.

SUMMARY AND CONCLUSIONS

- To summarize these findings on trends, over the last ten years there have been appreciable declines in the use of a number of the ***illicit drugs*** among seniors, and even larger declines in their use among American college students and young adults more generally. The stall in these favorable trends in all three populations in 1985, as well as an increase in active ***cocaine*** use that year, should serve as a reminder that these improvements cannot be taken for granted. Fortunately, in 1986 we saw the general decline resume and the prevalence of cocaine level off, albeit at peak levels; and since then the general decline continued, while cocaine use took a sharp downturn (in 1987) for the first time in more than a decade, and it continued to decline through 1990. ***Crack*** use began to decline in 1988 among seniors, and use is now dropping in all three populations.

- While the overall picture has improved considerably in recent years, the amount of illicit as well as licit drug use among America's younger age groups is still striking when one takes into account the following facts:

  By their late-twenties, over 80% of today's young adults have tried an ***illicit drug***, including over 60% who have tried some ***illicit drug other than*** (usually in addition to) ***marijuana***. Even for high school seniors these proportions still stand at 48% and 29%, respectively.

  By age 27, 40% have tried ***cocaine***; as early as the senior year of high school 9% have done so. Roughly one in every thirty seniors (3.5%) have tried the particularly dangerous form of cocaine called ***crack***: in the young adult sample 5.1% have tried it.

  Some 2.2% of high school seniors in 1990 smoke ***marijuana daily***, and roughly the same proportion (2.5%) of young adults aged 19 to 28 do, as well. Among all seniors in 1990, 10% had been daily marijuana smokers at some time for at least a month, and among young adults the comparable figure is 19%.

Some 32% of seniors have had ***five or more drinks in a row*** at least once in the prior two weeks, and such behavior tends to increase among young adults one to four years past high school. The prevalence of such behavior among male college students reaches 50%.

Some 29% of seniors have smoked ***cigarettes*** in the month prior to the survey and 19% already are daily smokers. In addition, many of the lighter smokers will convert to heavy smoking after high school. For example, more than one in every five young adults aged 19 to 28 is a daily smoker (21%), and one in six (17%) smokes a half-pack-a-day or more.

- Despite the improvements in recent years, it is still true that this nation's high school students and other young adults show a level of involvement with illicit drugs which is greater than can be found in any other industrialized nation in the world. Even by longer-term historical standards in this country, these rates remain extremely high. Heavy drinking also remains widespread and troublesome; and certainly the continuing initiation of large proportions of young people to cigarette smoking is a matter of the greatest public health concern.

- Finally, we note the seemingly unending capacity of pharmacological experts and amateurs to discover new substances with abuse potential that can be used to alter mood and consciousness. While as a society we have made significant progress on a number of fronts in the fight against drug abuse, we must continually be preparing for, and remaining vigilant against, the opening of new fronts, as well as the re-emergence of trouble on the older ones.

Chapter 13

STUDY DESIGN AND PROCEDURES

The research design, sampling plans, and field procedures used in both the in-school surveys of seniors, and the follow-up surveys of young adults, are presented in this chapter. Related methodological issues such as response rates, population coverage, and the validity of the measures will also be discussed.

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF SENIORS

The data from high school seniors are collected during the spring of each year, beginning with the class of 1975. Each data collection takes place in approximately 125 to 135 public and private high schools selected to provide an accurate representative cross-section of high school seniors throughout the coterminous United States.

The population under study. There are several reasons for choosing the senior year of high school as an optimal point for monitoring the drug use and related attitudes of youth. First, the completion of high school represents the end of an important developmental stage in this society, since it demarcates both the end of universal public education and, for many, the end of living in the parental home. Therefore, it is a logical point at which to take stock of the cumulated influences of these two environments on American youth. Further, the completion of high school represents the jumping-off point from which young people diverge into widely differing social environments and experiences. Finally, there are some important practical advantages to building a system of data collections around samples of high school seniors. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable stress be laid on cost efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

The omission of dropouts. One limitation in the design to date has been that it does not include in the target population those young men and women who drop out of high school before graduation—between 15 and 20 percent of each age cohort nationally, according to U.S. Census statistics. The omission of high school dropouts does introduce biases in the estimation of certain characteristics of the entire age group; however, for most purposes, the small proportion of dropouts sets outer limits on the bias. Further, since the bias from missing dropouts should remain just about constant from year to year, their omission should introduce little or no bias in *change* estimates. Indeed, we believe the changes observed over time for those who finish high school are likely to parallel the changes for dropouts in most instances. An Appendix to Volume I addresses the likely effects of the exclusion of dropouts on estimates of prevalence of drug use and trends in drug use among the entire age cohort; the reader is referred to it for a more detailed discussion of this issue.

Sampling procedures. A multi-stage random sampling procedure is used for securing the nationwide sample of high school seniors each year. Stage 1 is the selection of particular geographic areas, Stage 2 the selection of one or more high schools in each area, and Stage 3 the selection of seniors within each high school. This three-stage sampling procedure yielded the numbers of participating schools and students shown in Table 1.

Questionnaire administration. About ten days before the administration, students are given flyers explaining the study. The actual questionnaire administrations are conducted by the local Institute for Social Research representatives and their assistants, following standardized procedures detailed in a project instruction manual. The questionnaires are administered in classrooms during a normal class period whenever possible; however, circumstances in some schools require the use of larger group administrations.

Questionnaire format. Because many questions are needed to cover all of the topic areas in the study, much of the questionnaire content is divided into six different questionnaire forms which are distributed to participants in an ordered sequence that ensures six virtually identical subsamples. (Five questionnaire forms were used between 1975 and 1988.) About one-third of each questionnaire form consists of key or "core" variables which are common to all forms. All demographic variables, and nearly all of the drug *use* variables included in this report, are included in this "core" set of measures. Many of the questions dealing with attitudes, beliefs, and perceptions of relevant features of the social environment are contained in only a single form, however, and are thus based on one-sixth as many cases (i.e., approximately 2,600 respondents in 1990) or one-fifth as many cases in 1975–1988 (e.g., approximately 3,300 respondents in 1988). All tables in this report give the sample sizes upon which the statistics are based, stated in terms of weighted numbers of cases (which are roughly equivalent to the actual numbers of cases).

RESEARCH DESIGN AND PROCEDURES FOR THE FOLLOW-UP SURVEYS

Beginning with the graduating class of 1976, each class is followed up annually after high school on a continuing basis. From the roughly 16,000 to 17,000 seniors originally participating in a given class, a representative sample of 2,400 individuals is chosen for follow-up. In order to ensure sufficient numbers of drug users in the follow-up surveys, those fitting certain criteria of current drug use (that is, those reporting 20 or more uses of marijuana, or any use of any of the other illicit drugs, in the previous 30 days) are selected with higher probability (by a factor of 3.0) than the remaining seniors. Differential weighting is then used in all follow-up analyses to compensate for the differential sampling probabilities. Because those in the drug-using stratum receive a weight of only .33 in the calculation of all statistics to compensate for their overrepresentation, the actual numbers of follow-up cases are somewhat larger than the weighted numbers reported in the tables.

The 2,400 selected respondents from each class are randomly assigned to one of two matching groups of 1,200 each; one group is surveyed on even-numbered calendar years, while the other group is surveyed on odd-numbered years. This two-year cycle is intended to reduce respondent burden, and thus yield a better retention rate across years.

Follow-up procedures. Using information provided by respondents at the time of the senior survey (name, address, phone number, and the name and address of someone who would always know how to reach them), mail contacts are maintained with those selected for inclusion in the follow-up panels. Newsletters are sent each year, and name and address corrections are requested. The questionnaires are sent by certified mail in the spring of each year. A check for $5.00, made payable to the respondent, is attached to the front of each questionnaire. Reminder letters and post cards go out at fixed intervals thereafter; finally, those not responding receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor. If requested, a second copy of the questionnaire is sent; but no questionnaire content is administered by phone.

Panel retention rates. To date the panel retention rates have remained quite high. In the first follow-up after high school, about 82% of the original panel have returned questionnaires. The retention rate reduces with time, as would be expected. The 1990 panel retention from the class of 1976—the oldest of the panels, now aged 32 (14 years past high school)—still remains at 69%.

Corrections for panel attrition. Since attrition is to a modest degree associated with drug use, we have introduced corrections into the prevalence estimates presented here for the follow-up panels. These raise the prevalence estimates from what they would be uncorrected, but only slightly. We believe the resulting estimates to be the most accurate obtainable for the population of high school senior graduates but still low for the age group as a whole, due to the omission of dropouts and absentees from the population covered by the original panels.[2]

Follow-up Questionnaire Format. The questionnaires used in the follow-up surveys are very much like those used in the senior year. They are optically scanned; they contain a core section on drug use and background and demographic factors common to all forms; and they have questions about a wide range of topics at the beginning and ending sections, many of which are unique to each questionnaire form. Many of the questions asked of seniors are retained in the follow-up questionnaires, and respondents are consistently mailed the same questionnaire form, so that changes over time in their behaviors, attitudes, experiences, and so forth can be measured. Questions specific to high school status and experiences are dropped in the follow-up, of course, and questions relevant to post-high school statuses and experiences are added. Thus, there are questions about college, military service, civilian employment, marriage, parenthood, and so on.

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[2]The intent of the weighting process is to correct for the effects of differential attrition on follow-up drug use estimates. Different weights are used for different substances. Cigarettes, alcohol, and marijuana each have one weight for every follow-up of each graduating class. The weights are based on the observed differences in the distribution on an index of use of the relevant substance in the follow-up compared to the base year distribution. For example, the distribution on the index of marijuana use in the 1988 follow-up of approximately 1,000 respondents from the class of 1976 was compared to the original 1976 base-year distribution for the entire base-year class of 17,000 respondents; and weights were derived which, when applied to the base-year data for only those in the 1988 follow-up, would reproduce the original base-year frequency distribution. A similar procedure is used to determine a weight for all illicits other than marijuana combined. In this case, however, an average weight is derived across graduating classes. Thus, the same weight is applied, for example, to all respondents in the follow-up of 1988, regardless of when they graduated from high school.

For most follow-up cohorts, the numbers of cases on single-form questions are only one-fifth the size of the sample based on core questions. Beginning with the class of 1989, a sixth form was introduced in senior year, so data from the more recent classes will have N's one-sixth of the total sample size. In the follow-up studies, single form samples, from a cohort are too small to make reliable estimates; therefore, in those cases where they are reported, the data from several adjacent cohorts (and, therefore, age groups) are combined.

REPRESENTATIVENESS AND VALIDITY

School participation. Schools are invited to participate in the study for a two-year period. With very few exceptions, each school in the original sample, after participating for one year of the study, has agreed to participate for a second year. Each year thus far, from 66 percent to 80 percent of the schools invited to participate initially have agreed to do so; for each school refusal, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement. The selection of replacement schools almost entirely removes problems of bias in region, urbanicity, and the like, that might result from certain schools refusing to participate. Other potential biases could be more subtle, however. If, for example, it turned out that most schools with "drug problems" refused to participate, that would seriously bias the sample. And if any other single factor were dominant in most refusals, that also might suggest a source of serious bias. In fact, however, the reasons for a school refusing to participate are varied and are often a function of happenstance events; only a very small proportion specifically object to the drug content of the survey. Thus we feel quite confident that school refusals have not seriously biased the surveys.

Schools are selected in such a way that half of each year's sample is comprised of schools which participated the previous year, and half is comprised of schools which will participate the next year. This staggered half-sample design is used to check on possible errors in the year-to-year trend estimates due to school turnover. Specifically, separate sets of one-year trends are computed using first that half-sample of schools which participated in both 1975 ***and*** 1976, then the half-sample which participated in both 1976 ***and*** 1977, and so on. Thus, each one-year trend estimate derived in this way is based on a constant set of about 65 schools. When the resulting trend data (examined separately for each class of drugs) are compared with trends based on the total samples of schools, the results are highly similar, indicating that the trend estimates are little affected by turnover or shifting refusal rates in the school samples. (The absolute prevalence estimates for a given year are not as accurate using just the half-sample, however.)

Student participation. Completed questionnaires are obtained from 77% to 86% of all sampled students in participating schools each year (see Table 1). The single most important reason that students are missed is absence from class at the time of data collection; in most cases it is not workable to schedule a special follow-up data collection for absent students. Students with fairly high rates of absenteeism also report above-average rates of drug use; therefore, there is some degree of bias introduced into the prevalence estimates by missing the absentees. Much of that bias could be corrected through the use of special weighting; however, we decided not to use such a weighting procedure because the bias in overall drug use estimates was determined to be quite small, and because the necessary weighting procedures would have introduced

undesirable complications. (Appendix A of one of our earlier reports[3] provides a discussion of this point and the Appendix to this report shows trend and prevalence estimates which would result with corrections for absentees included.)

Of course, some students are not absent from class, but simply refuse when asked to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1 percent of the target sample.

VALIDITY OF THE MEASURES OF SELF-REPORTED DRUG USE

The question always arises whether sensitive behaviors like drug use are honestly reported. Like most studies dealing with sensitive behaviors, we have no direct, objective validation of the present measures; however, the considerable amount of inferential evidence that exists strongly suggests that the self-report questions produce largely valid data. A more complete discussion of the contributing evidence which leads to this conclusion may be found in other publications; here we will only briefly summarize the evidence.[4]

First, using a three-wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability—a necessary condition for validity.[5] In essence, this means that respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of seniors reporting some illicit drug use by senior year has reached two-thirds of all respondents in peak years and nearly as high as 80% in some follow-up years, which constitutes *prima facie* evidence that the degree of under-reporting must be very limited. Fourth, the seniors' reports of use by their friends—about which they would presumably have less reason to distort—has been highly consistent with self-reported use in the aggregate in terms of both prevalence and trends in prevalence, as will be discussed later in this report. Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations—in other words, there is strong evidence of "construct validity." Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of the instruction to respondents to leave blank those drug use questions they felt they could not answer honestly. And seventh, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.

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[3]Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975–1983.* (DHHS Publication No. ADM 85–1374.) Washington, D.C.: U.S. Government Printing Office.

[4]Johnston, L.D., & O'Malley, P.M. (1985). Issues of validity and population coverage in student surveys of drug use. In B.A. Rouse, N.J. Kozel, & L.G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57; (ADM) 85–1402). Washington, D.C.: U.S. Government Printing Office; Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975–1983* (DHHS (ADM) 85–1374). Washington, D.C.: U.S. Government Printing Office.

[5]O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18,* 805–824.

This is not to argue that self-reported measures of drug use are valid in all cases. In the present study we have gone to great lengths to create a situation and set of procedures in which students feel that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. We think the evidence suggests that a high level of validity has been obtained. Nevertheless, insofar as there exists any remaining reporting bias, we believe it to be in the direction of underreporting. Thus, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

Consistency and the measurement of trends. One further point is worth noting in a discussion of the validity of the findings. The Monitoring the Future project is designed to be sensitive to changes from one time to another. Accordingly, the measures and procedures have been standardized and applied consistently across each data collection. To the extent that any biases remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same way from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, which means that our measurement of ***trends*** should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

YOUNG ADULTS POST-HIGH SCHOOL

Chapter 14

PREVALENCE OF DRUG USE AMONG YOUNG ADULTS POST-HIGH SCHOOL

As described in the introductory chapter in each volume of this report, the Monitoring the Future study conducts ongoing panel studies on representative samples from each graduating class, beginning with the class of 1976. Two matched panels, of roughly 1200 seniors each, are selected from each graduating class—one panel is surveyed every even-numbered year after graduation, the other is surveyed every odd-numbered year. Thus, in a given year, the study encompasses one of the panels from each of the senior classes previously participating in the study. In 1990, this meant that representative samples of the classes of 1976 through 1989—or fourteen previous classes in all—were surveyed by mail.

In this section we present the results of that follow-up survey—results which should accurately characterize the approximately 85% of young adults in the class cohorts one to fourteen years beyond high school who are high school graduates. (They have modal ages between 19 and 32.) The high school dropout segment missing from the senior year surveys is, of course, missing from all of the follow-up surveys, as well.

Figures 31 through 49 contain the 1990 ***prevalence*** data for all age groups covered, up through those who are fourteen years beyond high school (modal age of 32). Later figures will give the ***trend*** data for each age group, including seniors and graduates who are up to ten years past high school (modal age of 28). With the exception of the seniors, age groups have been paired into two-year intervals in both sets of figures in order to increase the number of cases, and thus the reliability, for each point estimate. For obvious reasons, trends on the youngest age bands can be calculated for the longest period of time. As the years pass and the earlier class cohorts get older, new age groups are added to the figures.

A NOTE ON LIFETIME PREVALENCE ESTIMATES

In Figures 31 through 49 two different estimates of lifetime prevalence are provided—one based on the respondent's most recent statement of whether he or she ever used the drug in question (second bar from the left), and one based on the cumulated answers of the respondent across ***all*** previous data collections in which he or she participated (the left-most bar).[6] The former type of estimate is most commonly presented in epidemiological studies, since it can be made based on the data from a single cross-sectional survey. The latter is possible only when panel data have been gathered and a

[6]To be categorized as one who has used the drug based on all past answers regarding that drug, the respondent has either (a) to have reported past use in the most recent data collection and/or (b) to have reported some use in his or her lifetime on at least two earlier occasions. Because respondents in the age groups of 18 and 19–20 cannot have their responses adjusted on the basis of two earlier occasions, adjusted prevalences are reported only for ages 21 and older.

respondent can be classified as having used a drug at sometime in his or her life (based on earlier answers) even though he or she no longer indicates lifetime use in the most recent survey.

The divergence of these two estimates as a function of age shows that there is more inconsistency as time passes. Obviously there is more opportunity for inconsistency as the number of data collections increases. Our judgment is that "the truth" lies somewhere between the two estimates, in that the lower estimate may be depressed by tendencies to forget, "forgive," or conceal earlier use; and the upper estimate may include some earlier response errors or incorrect definitions of drugs which respondents corrected in later surveys. (It should be noted that a high proportion of those giving inconsistent answers across time had earlier reported having used only once or twice in their lifetime.) As we have reported elsewhere, cross-time stability of self-reported usage measures, which take into account the number of occasions of self-reported use, is still very high.[7]

It also should be noted that the divergence between the two lifetime prevalence estimates is greatest for the psychotherapeutic drugs, and the derivative index of "use of an illicit drug other than marijuana," which is heavily affected by the psychotherapeutic estimates. We believe this is due to the greater difficulty for respondents in categorizing such pills with a high degree of certainty—especially if they have used them only once or twice. One would expect higher inconsistency across time, when the event (in many of these cases a single event) is reported at quite different points in time with a relatively low degree of certainty. Those who have gone beyond simple experimentation with one of these drugs would undoubtedly be able to categorize them with a higher degree of certainty. Also, those who have experimented more recently (say in the past month or year) should have a higher probability of recall as well as more fresh information for accurately categorizing the drug.

We provide both estimates to make clear that a full use of respondent information provides a possible range for lifetime prevalence estimates, not a single point. However, by far the most important use of the prevalence data is to track ***trends*** in ***current*** (as opposed to lifetime) use; thus we are much less concerned about the nature of the variability in the lifetime estimates than we might otherwise be. The lifetime prevalence estimates are primarily of importance in showing the degree to which a drug class has penetrated the general population.

A number of interesting findings emerge from the follow-up data.

PREVALENCE OF DRUG USE IN 1990 AS A FUNCTION OF AGE

- For virtually all drugs, the age comparisons available show a much higher lifetime prevalence for the older age groups. In fact, the figures reach some impressive levels among young adults in their early thirties. Among 31 to 32 year olds in 1990, for example, the *adjusted* lifetime prevalence figures reach 83% for ***any illicit drug***, 62% for ***any illicit drug other than marijuana***, 77% for

[7]O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18*, 805–824.

marijuana, and 41% for ***cocaine***, specifically. *Put another way, among young Americans in the cohorts which graduated high school in 1976 and 1977 only about one-sixth (17%) have not tried an illegal drug.*

The 1990 survey responses, *unadjusted* for previous answers, show somewhat lower proportions: 75% for any illicit drug, 51% for any illicit drug other than marijuana, 72% for marijuana, and 35% for cocaine.

- Despite the higher levels of *lifetime* use among older age groups, the older age groups generally show levels of *annual* or *current* use which are no higher than among high school seniors; in fact, in a number of cases the levels reported by older respondents are lower, suggesting that the incidence of quitting has more than offset the incidence of new use after high school. (See Tables 34 to 36, as well as Figures 31 through 49.)

  In analyses published elsewhere, we have looked closely at patterns of change in drug use, and have identified some post-high school experiences which contribute to declining levels of annual or current use as respondents grow older. In particular, the likelihood of being married increases with age during the twenties, and we have found that marriage is consistently associated with declines in alcohol use in general, heavy drinking in particular, marijuana use, and use of other illicit drugs.[8]

- For the use of ***any illicit drug***, lifetime prevalence is 83% among 31 to 32 year olds vs. 48% among the 1990 seniors; however, annual prevalence is slightly lower among those in their late twenties than among seniors (see Figure 31). Current (30-day) prevalence is quite constant at 14% to 16% across the entire age-band 19 to 32, however.

- A similar pattern exists for ***marijuana***; that is, higher lifetime prevalence as a function of age, but clearly lower annual prevalence during the later twenties. Thirty-day prevalence is fairly constant across the age-band at 12% to 15% (see Figure 33), and current ***daily marijuana use*** is now between 2% and 3%.

- The statistics on the use of ***any illicit drug other than marijuana*** (Figure 32) behave in a somewhat different fashion. Like marijuana and the any-illicit-drug-use index, corrected lifetime rates on this index also show an appreciable rise with age, reaching 62% among the 31 to 32 year old age group. However, both the 30-day and annual usage statistics are fairly constant across the age band. As the next several paragraphs illustrate, most of the drugs which constitute this category show a decline

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[8]Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (1984). Drug use among young adults: The impacts of role status and social environment. *Journal of Personality and Social Psychology, 47*, 629–645.

with age in annual prevalence. Thus, the one which shows an appreciable increase with age—namely, cocaine—must account for this constancy across age in this general category.

- Several classes of drugs show lower rates of current use among the older age groups than among seniors. In recent years, for example, ***hallucinogens*** (including ***LSD***) have shown lower annual and 30-day prevalence rates for the older ages than for seniors (Figures 37 and 38). However, all of these prevalence rates are very low, and thus the differences are quite small.

- For ***stimulants*** lifetime prevalence is again much higher among the older age groups (Figure 34)—reflecting the addition of many new initiates in the early twenties. However, active use as reflected in the annual prevalence figure is now lower among the older age groups. This has not always been true; the present pattern is the result of a sharper decline in use in the older ages than has occurred among seniors. These trends are discussed in the next section.

- In 1990, questions on the use of ***crystal methamphetamine ("ice")***, are contained in two forms. Among the 19 to 32 year old respondents 0.4% reported some use in the prior year—lower than the 1.3% reported by seniors. About 0.5% of the 19–22 year olds reported annual use, compared to less than 0.3–0.4% among the older respondents (Figure 45).

- Questions on ***methaqualone*** were dropped from the follow-up questionnaires beginning in 1990; only the 1989 survey results can be referenced here. They showed lifetime prevalence appreciably higher among older age groups, but little age-related difference in annual prevalence among the post-high school age groups. High school seniors showed a slightly higher annual prevalence than the older age groups; but all ages showed very low current prevalence rates, reflecting very high rates of noncontinuation for this drug.

- ***Barbiturates*** are similar to stimulants (and methaqualone) in that lifetime prevalence is appreciably higher in the older ages, but slightly different in that active nonmedical use after high school has always been lower than such use during high school (Figure 41). At present current usage rates are very low in all age groups.

- ***Opiates other than heroin*** show trends very similar to barbiturates—somewhat higher lifetime prevalence as a function of age but active nonmedical use consistently lower among post-high school age groups (Figure 42).

- ***Tranquilizer*** use, on the other hand, remains fairly stable for 30-day and annual prevalence rates across the full age band.

- ***Cocaine*** presents a unique case among the illicit drugs in that lifetime, annual, and current use ***all*** are substantially higher among the older age groups. Annual and current use appear to plateau in the mid-20's and then to remain fairly constant through age 32 (Figure 35). In 1990, lifetime prevalence by age 31 to 32 was 41% vs. 9% among today's high school seniors (and 10% among the 31 to 32 year old cohorts when they were seniors in the late 1970's). Annual prevalence for 31 to 32 year olds today is 9% and 30-day prevalence is 3%—again, higher than for the 1990 seniors. Clearly this is a drug used much more frequently among people in their twenties than among those in their late teens; this fact continues to distinguish it from all of the other illicit drugs.

- With regard to ***crack*** use, the standard set of three prevalence questions was introduced for the first time in 1987. In 1990, they show that lifetime prevalence reached 6% to 7% among those in their late twenties and early thirties, vs. 3.5% among seniors. However, current prevalence for the follow-up respondents is at or below that for seniors (Figure 36). On average, the follow-up respondents one to twelve years out of high school have an annual prevalence of 1.6% vs. 1.9% among seniors, and a 30-day prevalence of 0.4% vs. 0.7% among seniors. Taken together these facts suggest that follow-up respondents have a higher rate of noncontinuation than do seniors, as is true for most other drugs.

  As with the senior data, we expect that the omission of high school dropouts is likely to have a greater than average impact on the prevalence estimates for this drug.

- In the case of ***alcohol***, prevalence rates generally increase for the first four years after high school, through age 21 or 22 (Figure 48a). After that, age differences vary slightly for the different measures. Lifetime prevalence, due to a "ceiling effect," changes very little after age 21 to 22. Current use (in the past 30 days) is highest among the 21 to 22 year olds and gets progressively lower for each higher age group, though even among the oldest group (31 to 32) use is higher than among 1990 seniors. Current ***daily drinking*** shows no decline after age 21–22; it remains fairly constant at 5–6% through the twenties and early thirties.

- ***Occasions of heavy drinking*** in the two weeks prior to the survey shows the largest differences among the age groups (Figure 48b), with 21 to 22 year olds showing the highest prevalence of such behaviors (38%) among all respondents, but with those eleven or more years beyond high school dropping back to rates actually lower than those observed in senior year (25% vs. 32%). We have inter-

preted this curvilinear relationship as reflecting an age effect (not a cohort effect), because it seems to replicate across years and different graduating classes.[9]

- ***Cigarette smoking*** shows an unusual pattern of age-related differences (Figure 49), in that current smoking (30-day prevalence) is about the same among those in their twenties as among high school seniors, but smoking at heavier levels—such as smoking daily or smoking half-a-pack daily—is considerably higher among the older age groups. This is partly because relatively few new people are recruited to smoking past high school, but many who were previously moderate smokers move into a pattern of heavier consumption during their twenties.[10] While slightly more than a third of the current smokers in high school smoke at the rate of half-pack a day or more, over two-thirds of the current smokers in the 31 to 32 age group do so.

- ***MDMA ("ecstasy")*** is a drug that has come to the fore the fairly recently. It was included for the first time in the 1989 follow-up surveys to assess how widespread its use had become among young adults. Questions about its use were not asked of high school students, primarily because we were concerned that its alluring name and relatively low prevalence might have the effect of stimulating interest in high school students.

  Relatively few 1990 respondents report any use of ***MDMA***: among 19 to 32 year olds 3.4% have ever tried it and only 1 in 500 (0.2%) have used in the prior 30 days (Figure 44). Annual use is highest among 19 to 22 year olds (about 2.1%) vs. 23 to 26 year olds (1.2%) and the 27 to 30 year olds (0.5%). Even lifetime use is slightly higher in the late teens and early to mid-20's than in the late 20's due to the recency of its introduction and its tendency to be taken up among those of college age.

- Questions about use of ***steroids*** were added to one form only in 1989, making it more difficult to determine age-related functions accurately. Overall, 0.9% of 19 to 32 year olds reported having used steroids in their lifetime. Annual and 30-day use levels were very low, much less than 1%. (See Tables 33 to 35).

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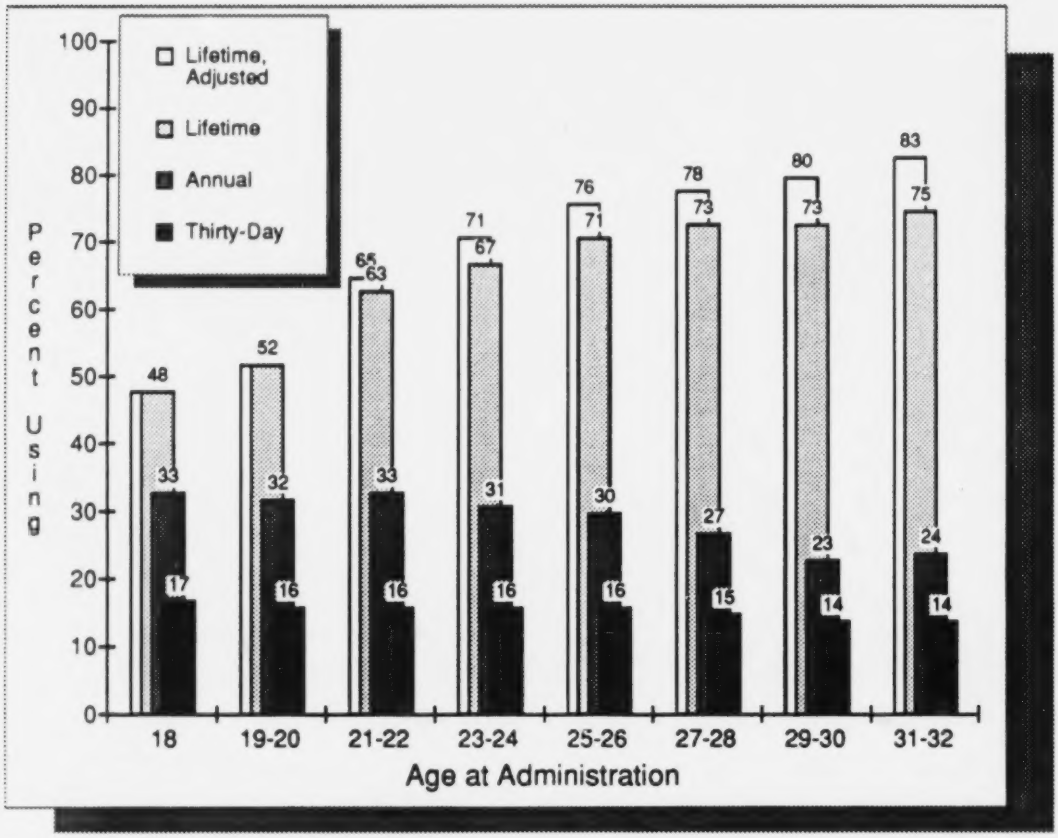
[9]O'Malley, Bachman, & Johnston, (1988), *op. cit.*

[10]Because age is confounded with class cohort, and because we have established that cigarette smoking shows strong cohort effects (enduring differences among cohorts), one must be careful in interpreting age-related differences in a cross-sectional sample as if they were due only to age effects (i.e. changes with age consistently observable across cohorts). However, multivariate analyses conducted on panel data from multiple cohorts do show a consistent age effect of the type mentioned here (O'Malley, Bachman, & Johnston, (1988), *op. cit.*).

FIGURE 31

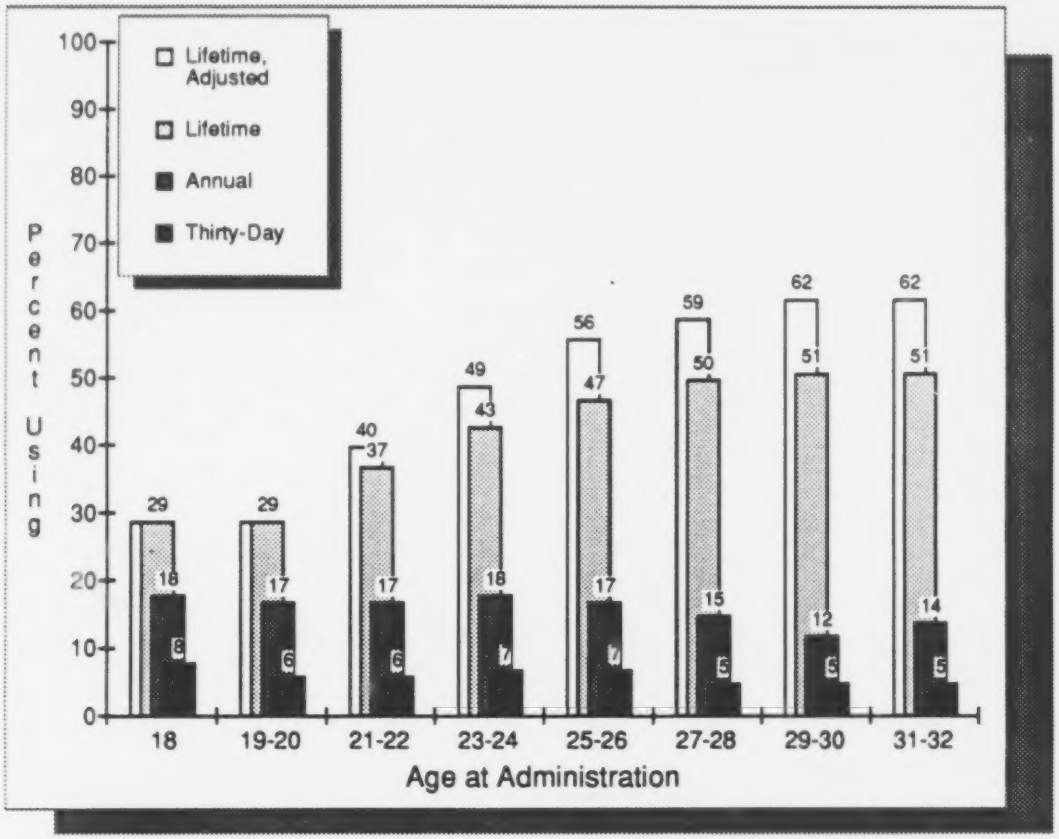
Any Illicit Drug: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 32

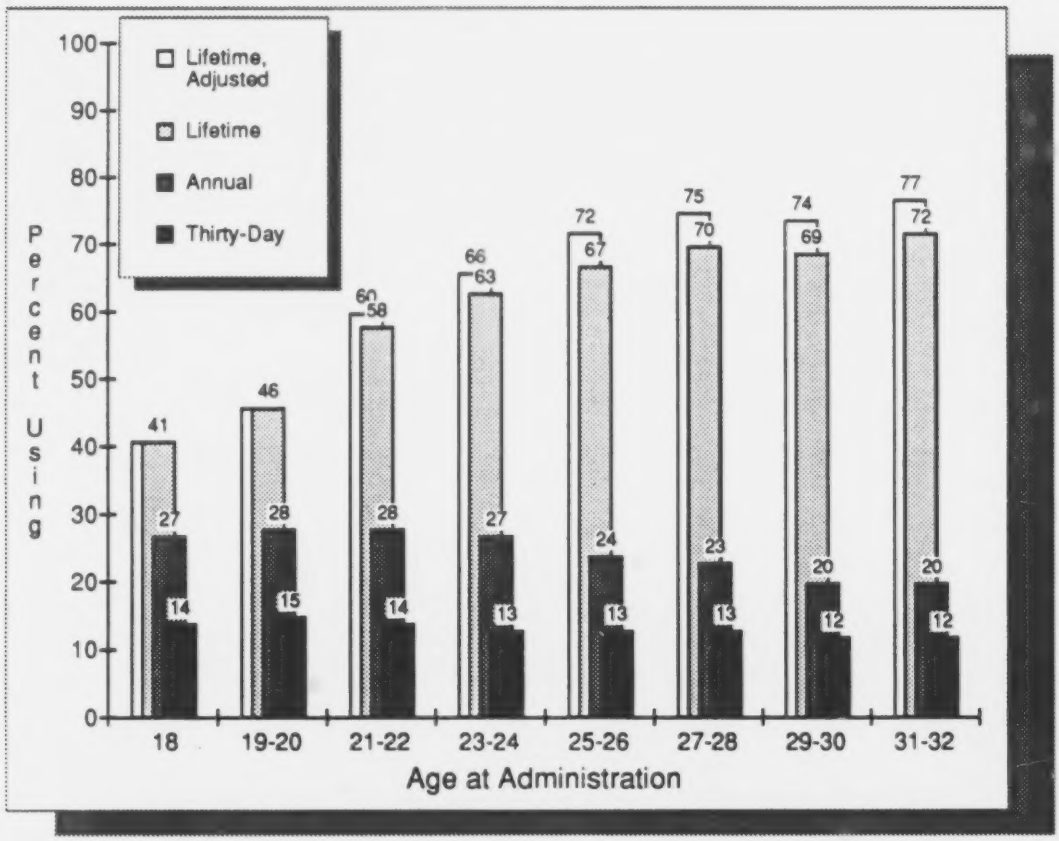
Any Illicit Drug Other than Marijuana: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 33

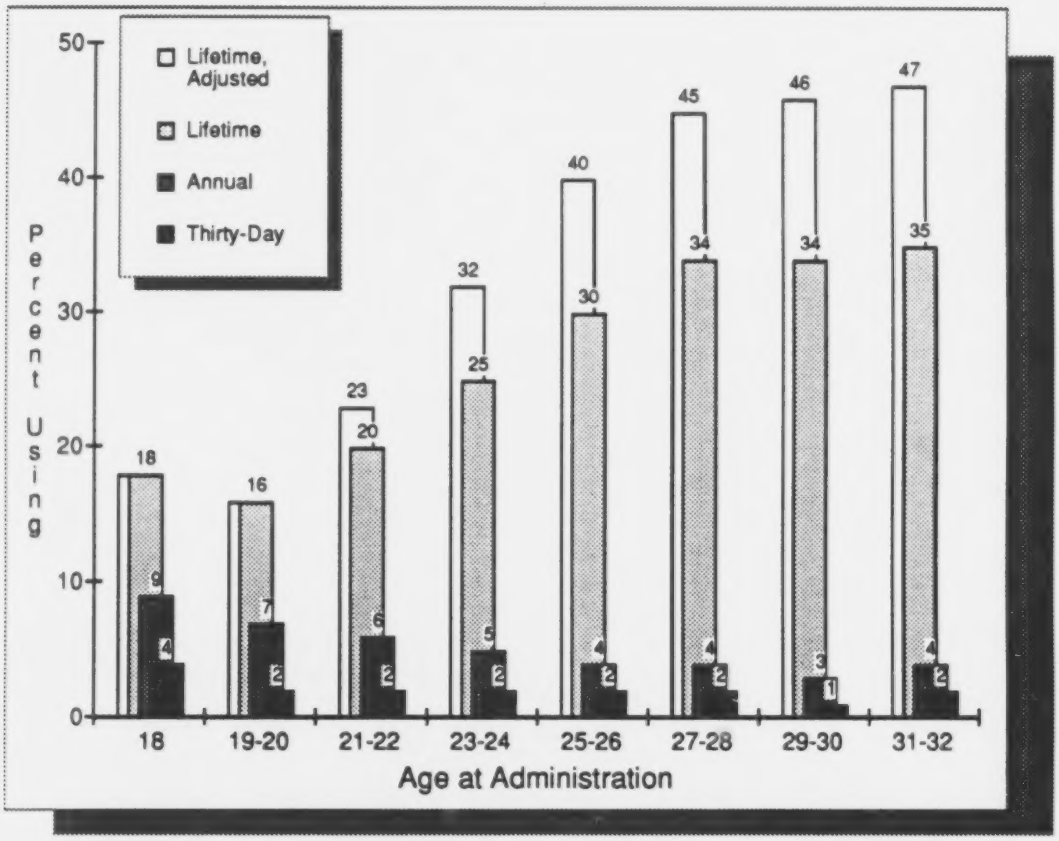
Marijuana: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 34

Stimulants: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group

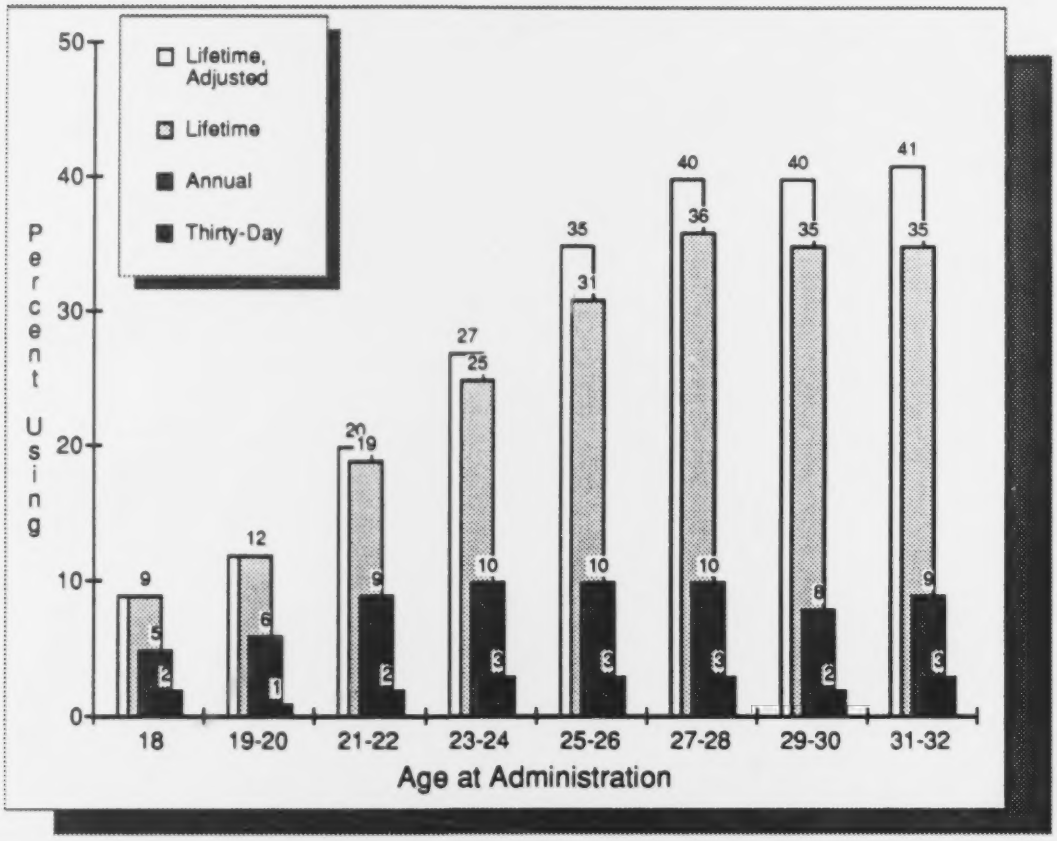


NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a]The divergence between the two lifetime prevalence estimates is due in part to the change in question wording initiated in 1982/1983, which clarified the instruction to omit non-prescription stimulants.

FIGURE 35

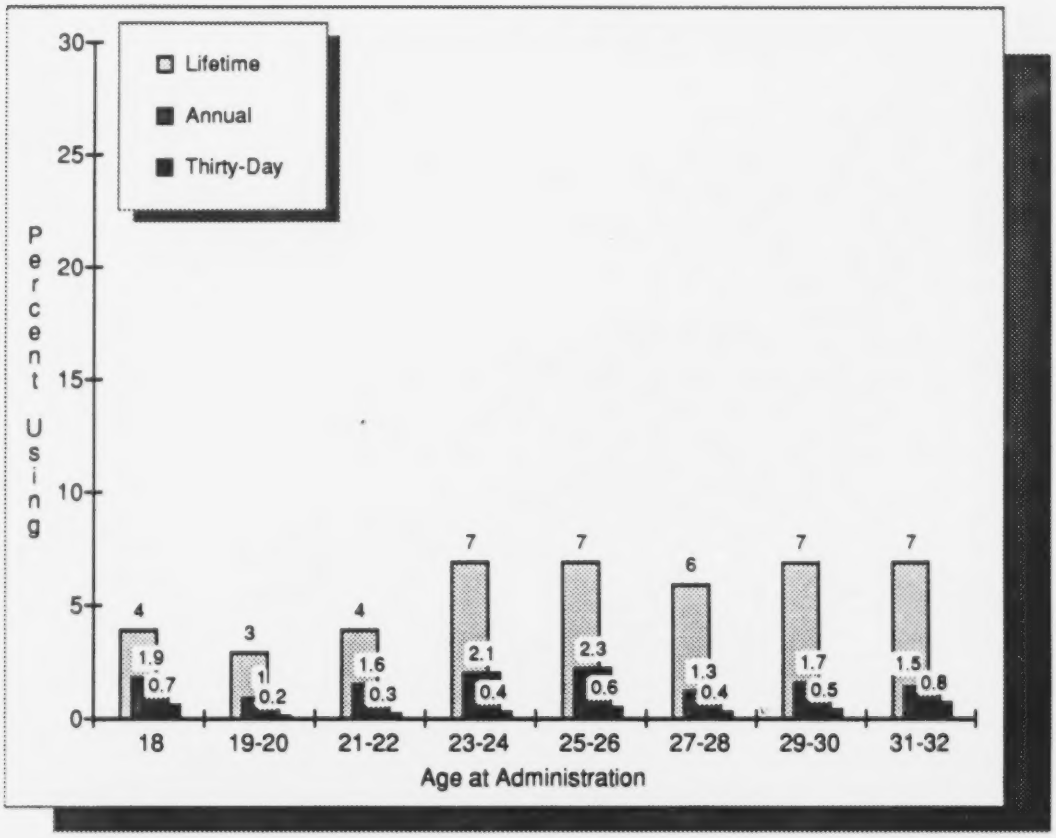
Cocaine: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 36

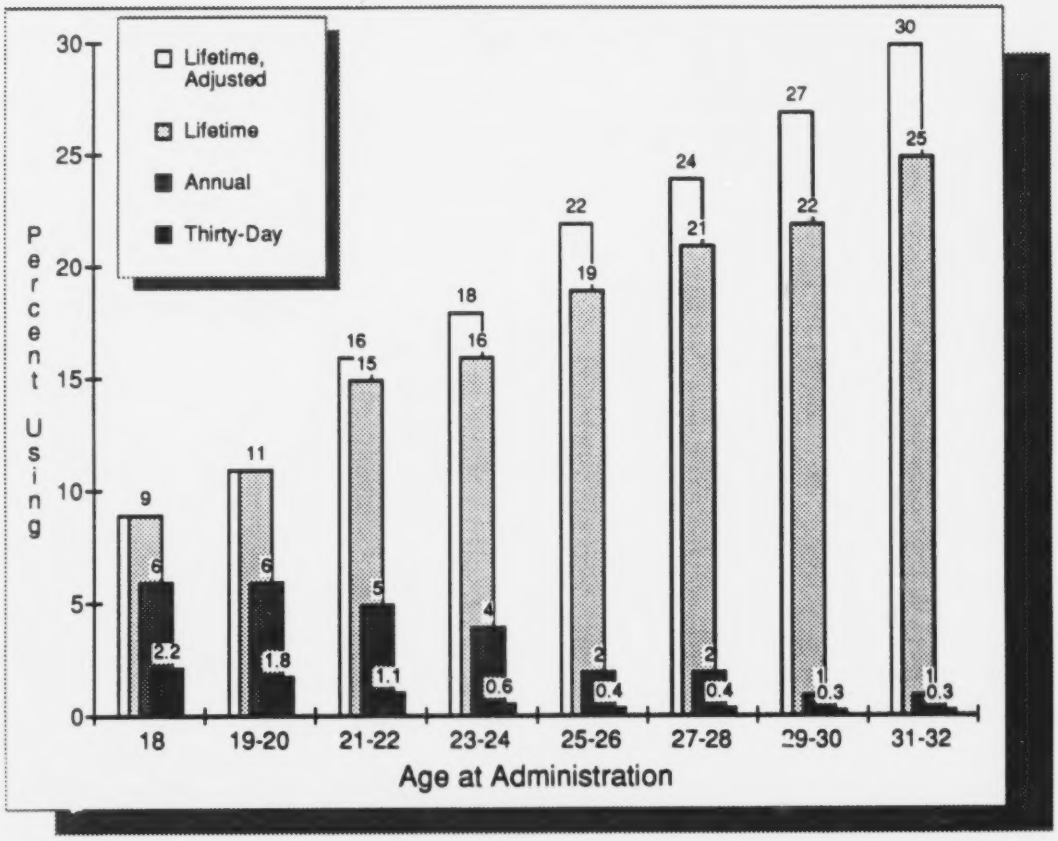
Crack: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Adjusted lifetime prevalence estimates are not presented because the first complete measures of crack use were not introduced until 1987.

FIGURE 37

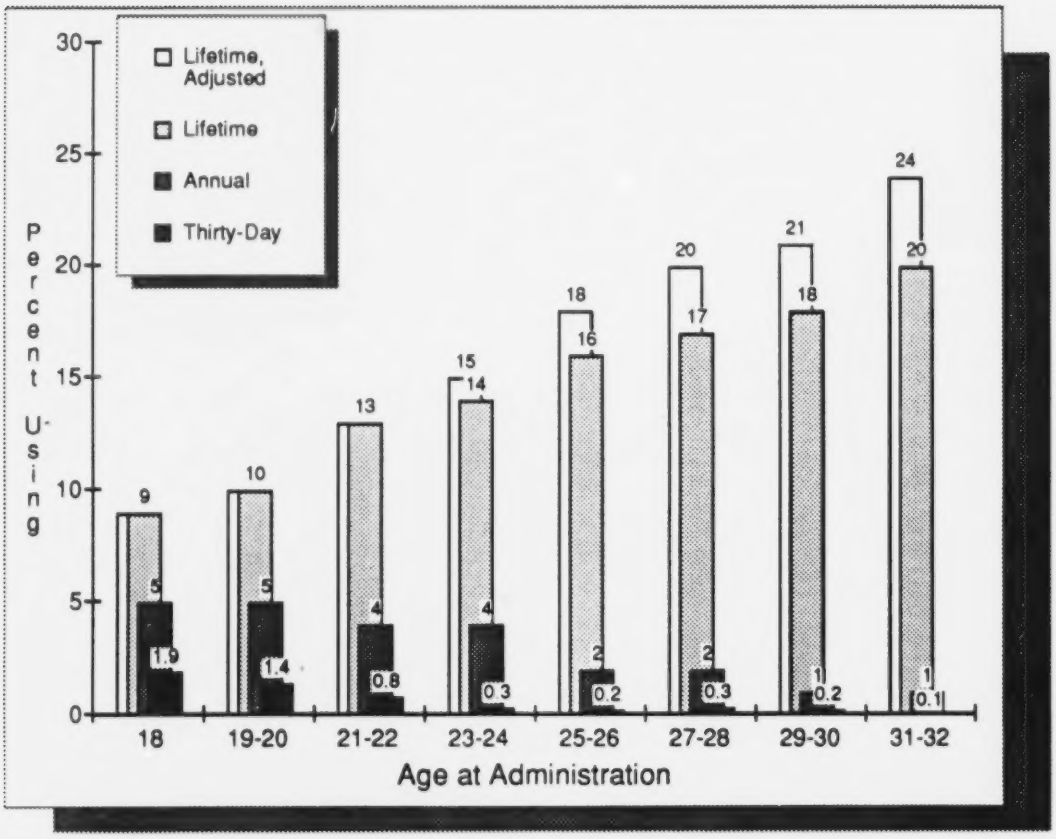
Hallucinogens*: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
*Unadjusted for the possible underreporting of PCP.

FIGURE 38

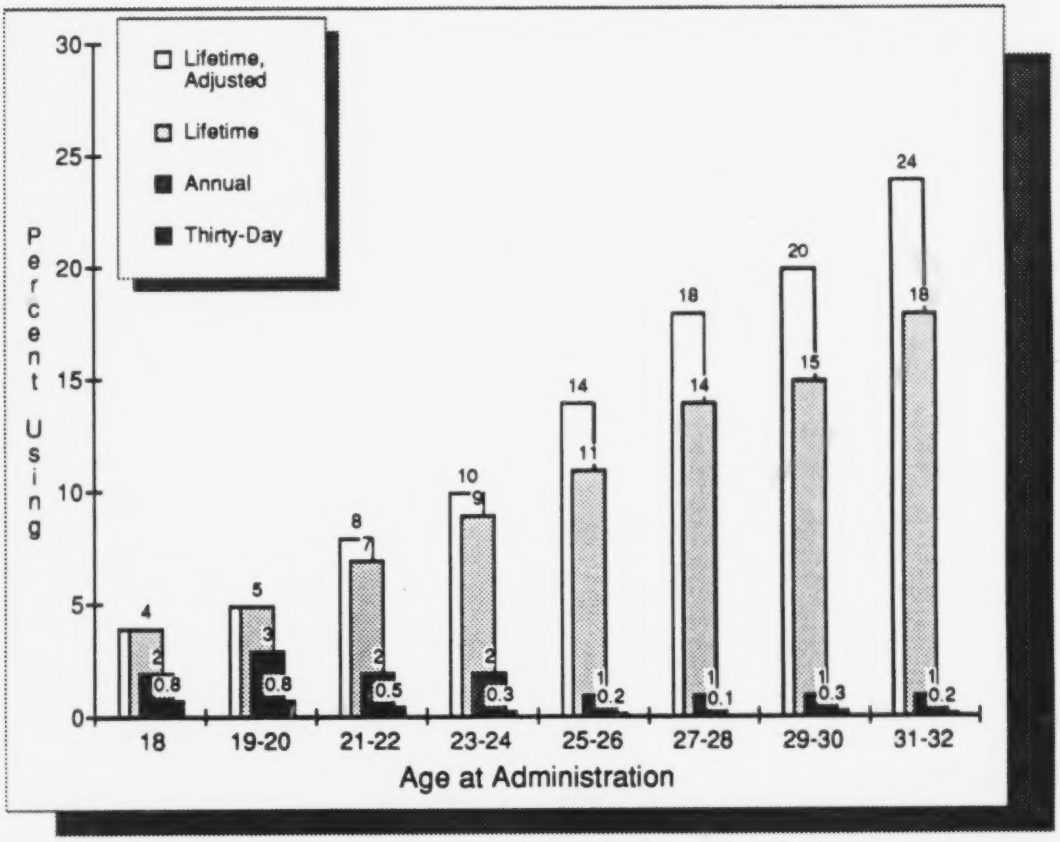
LSD: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 39

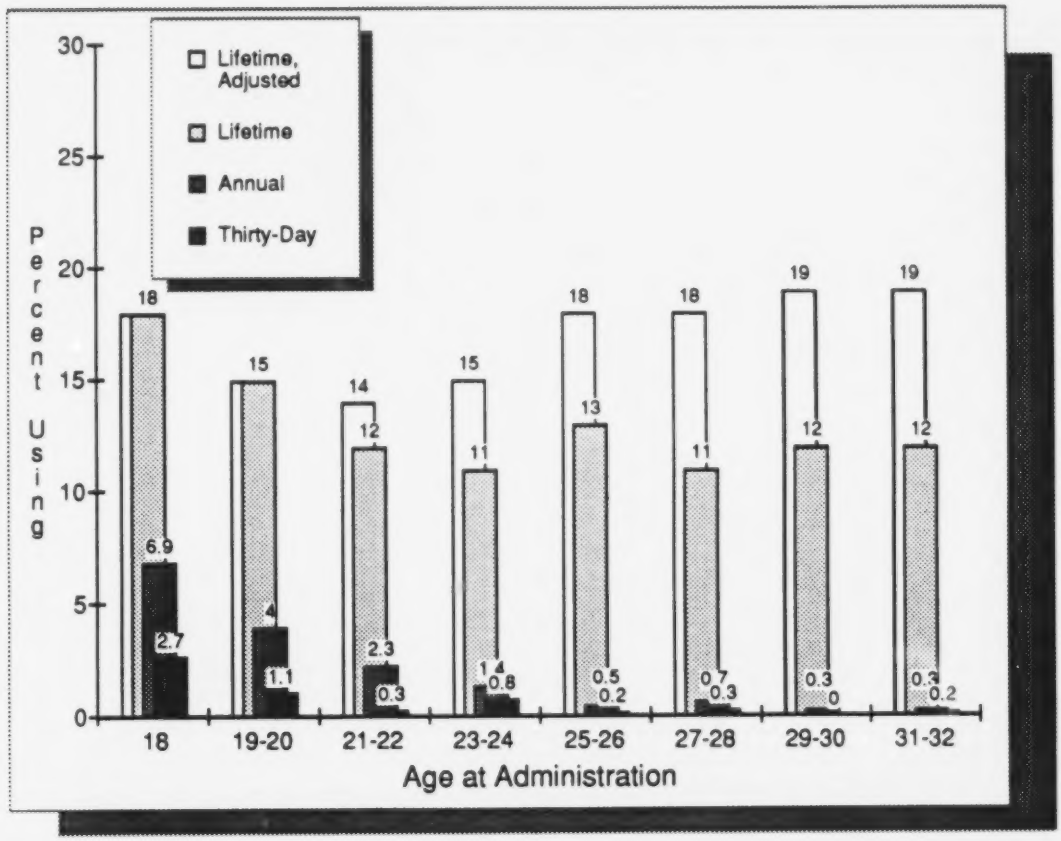
Hallucinogens Other than LSD: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 40

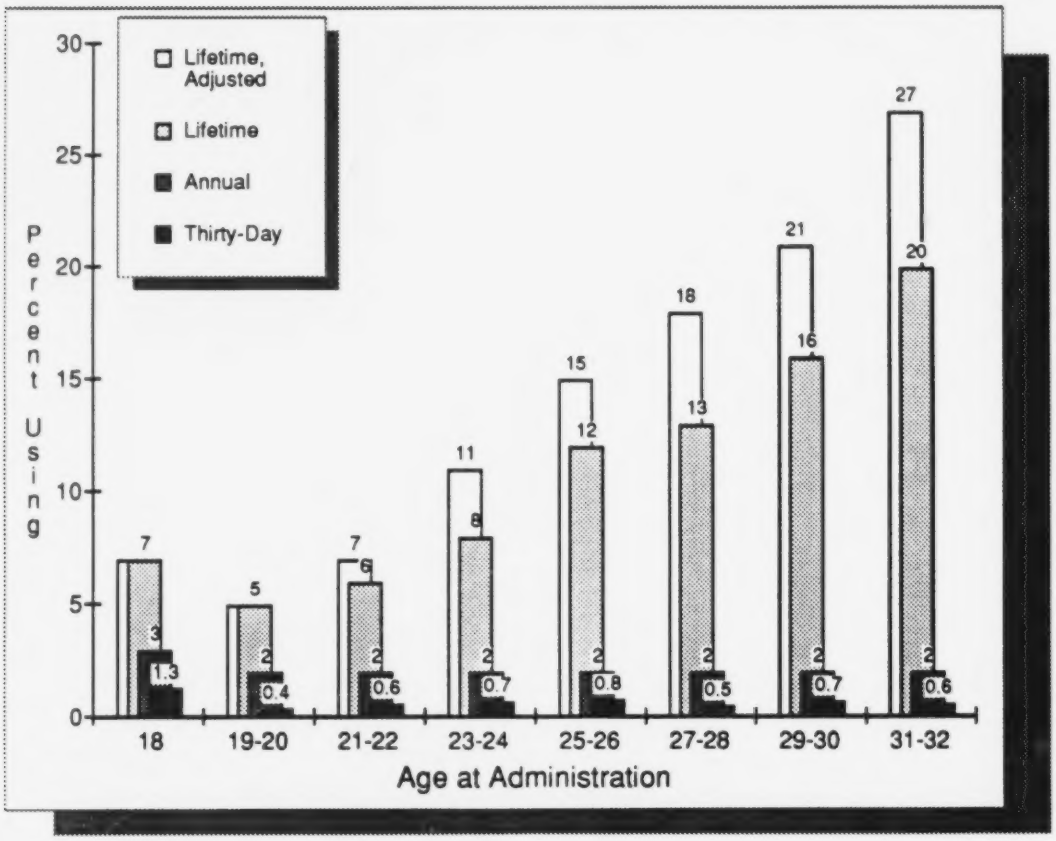
Inhalants*: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
*Unadjusted for the possible underreporting of amyl and butyl nitrites.

FIGURE 41

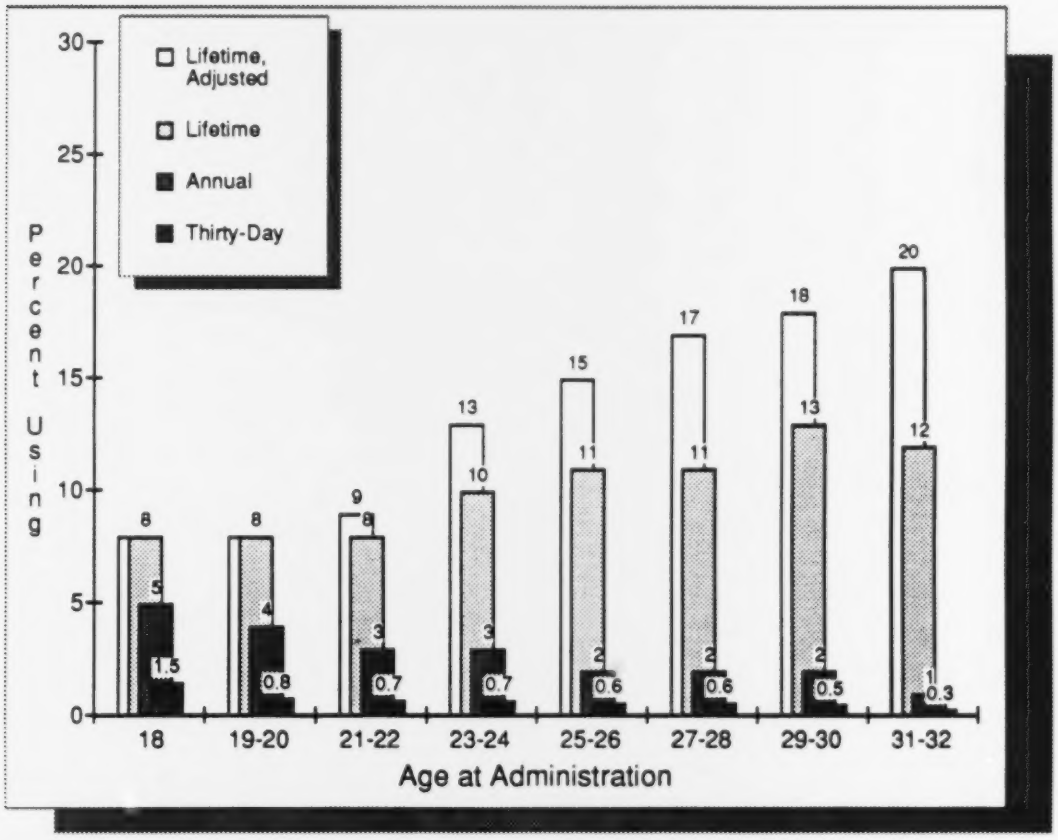
Barbiturates: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 42

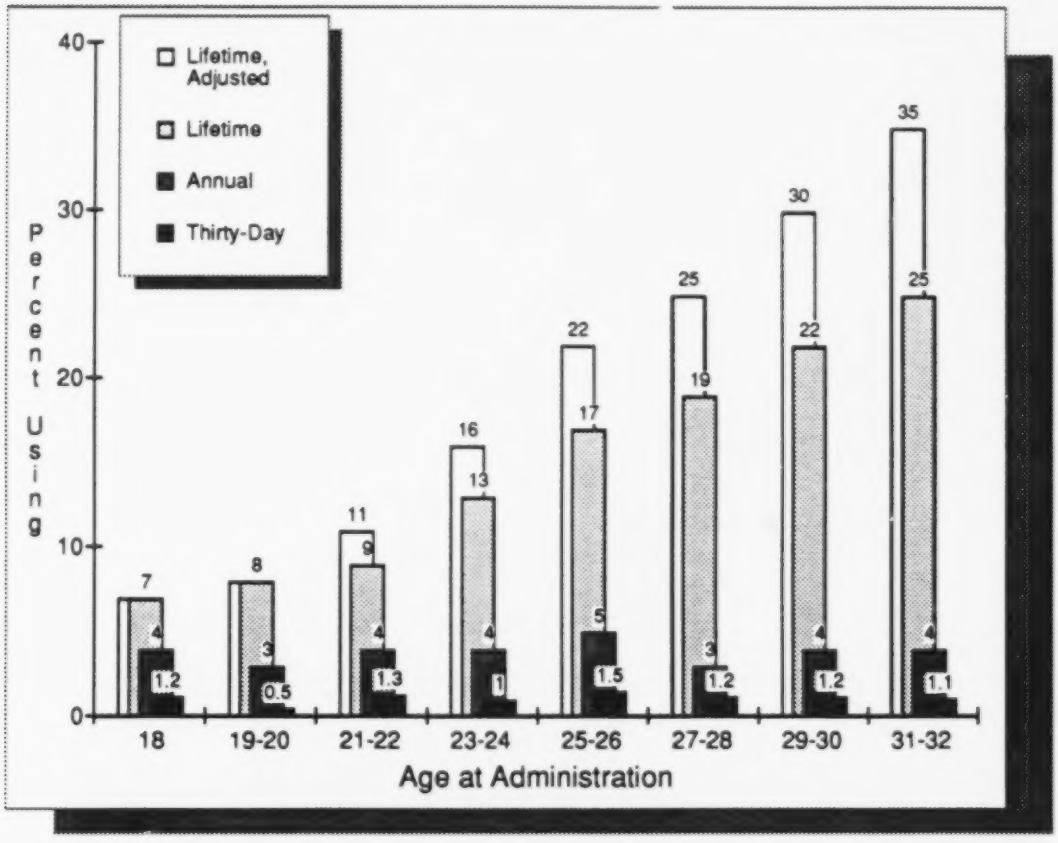
Other Opiates: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 43

Tranquilizers: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 44

MDMA: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group

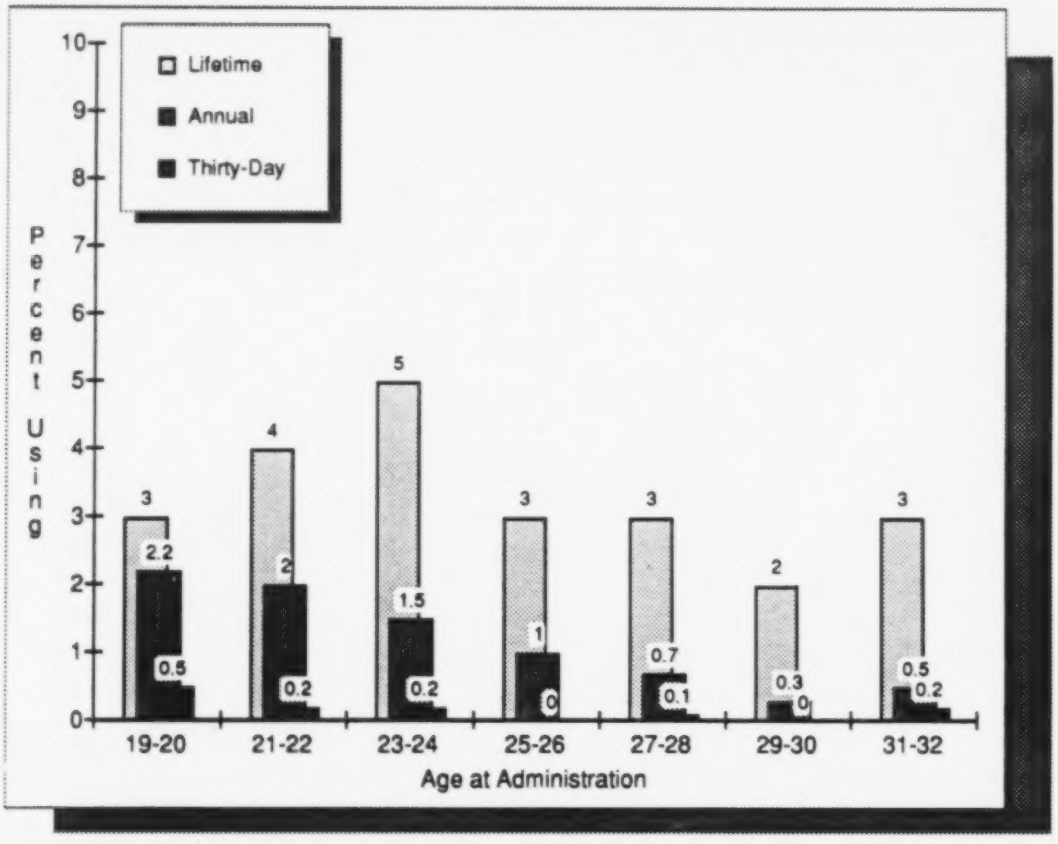


FIGURE 45

Crystal Methamphetamine: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group

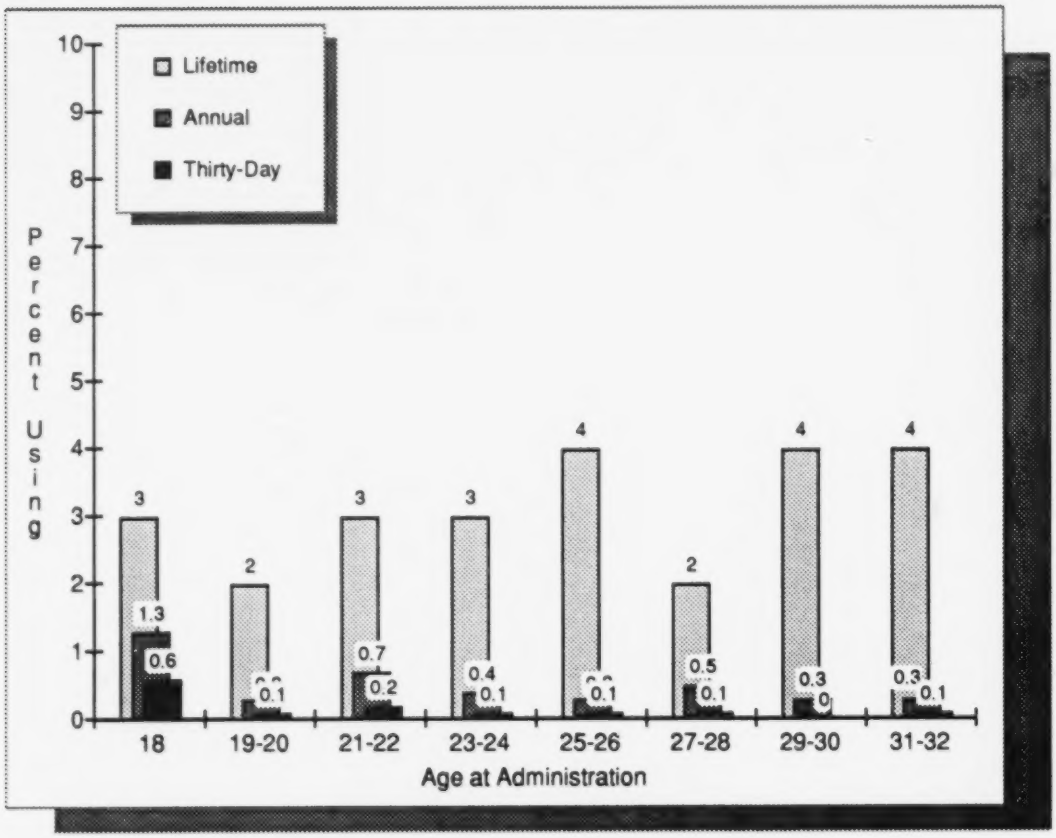


FIGURE 46

Steroids: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group

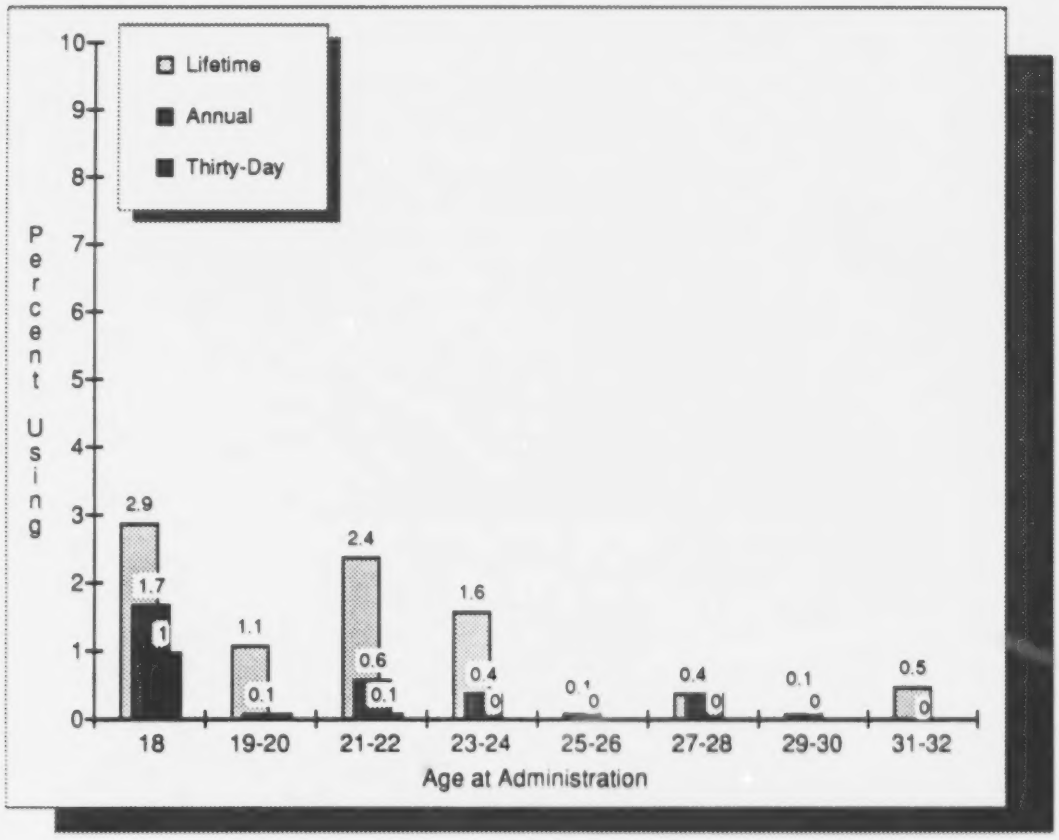


FIGURE 47

Heroin: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1990
by Age Group

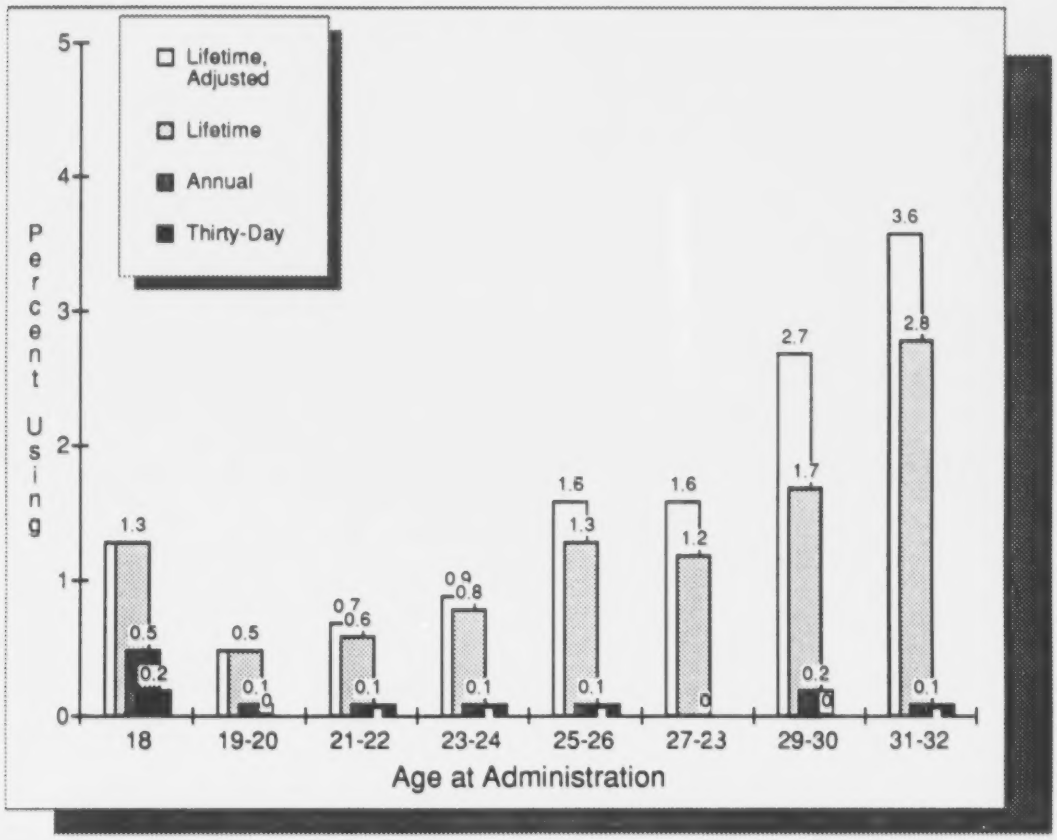
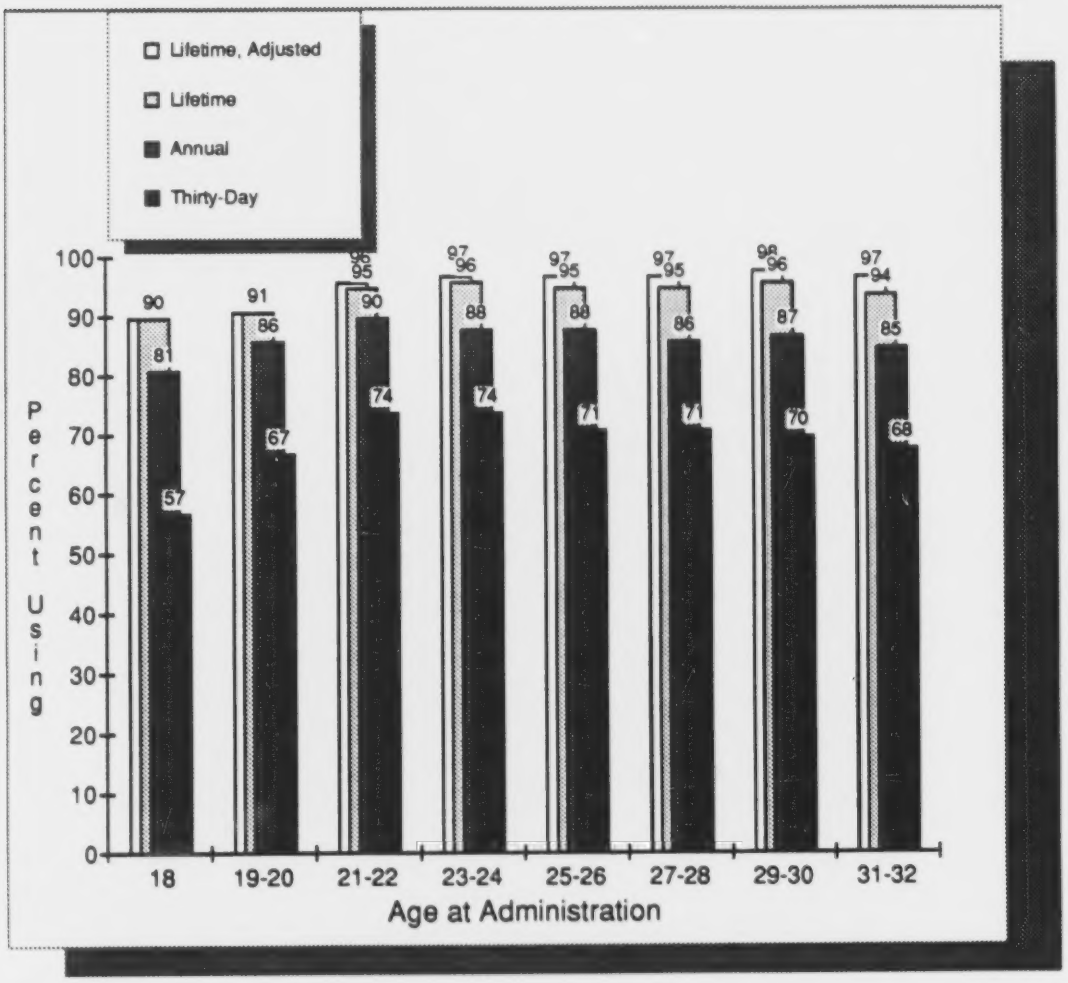


FIGURE 48a

Alcohol: Various Prevalence Rates Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 48b

Two-Week Prevalence of Five or More Drinks in a Row Among Young Adults, 1990
by Age Group

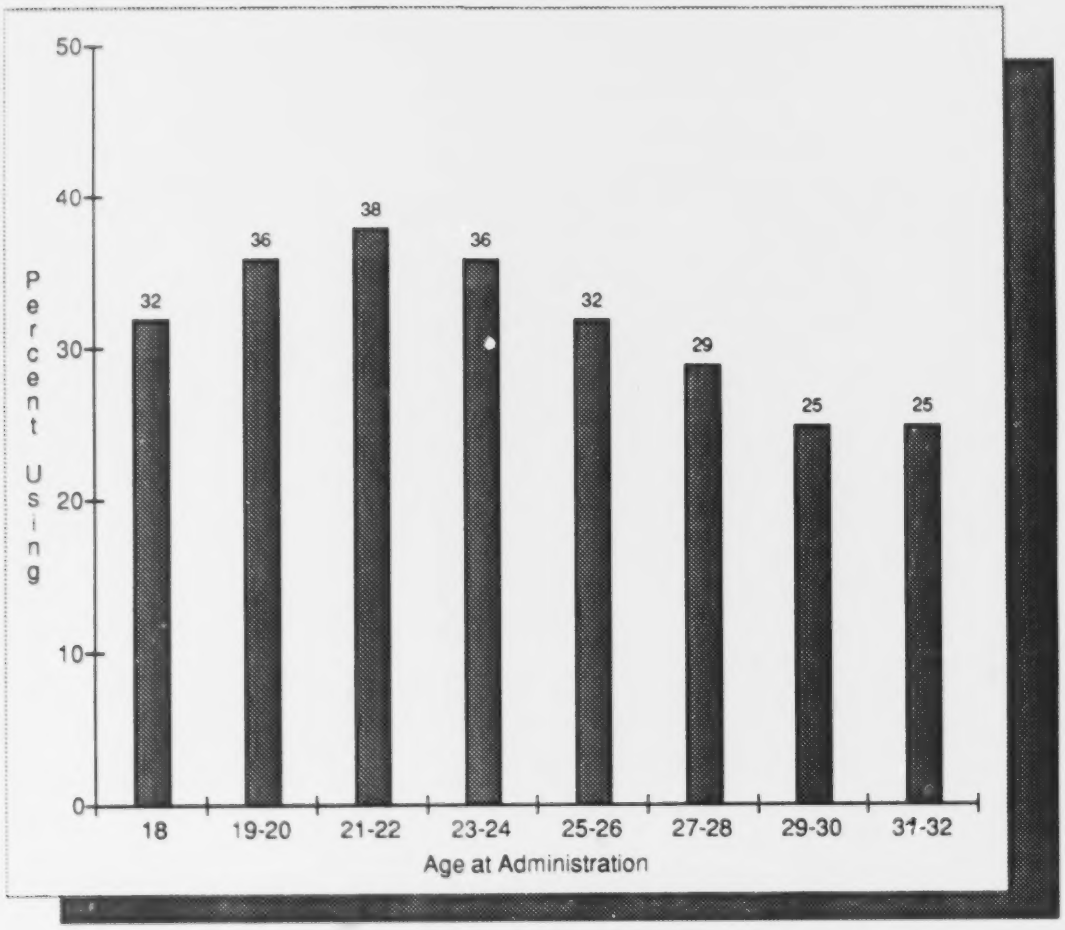
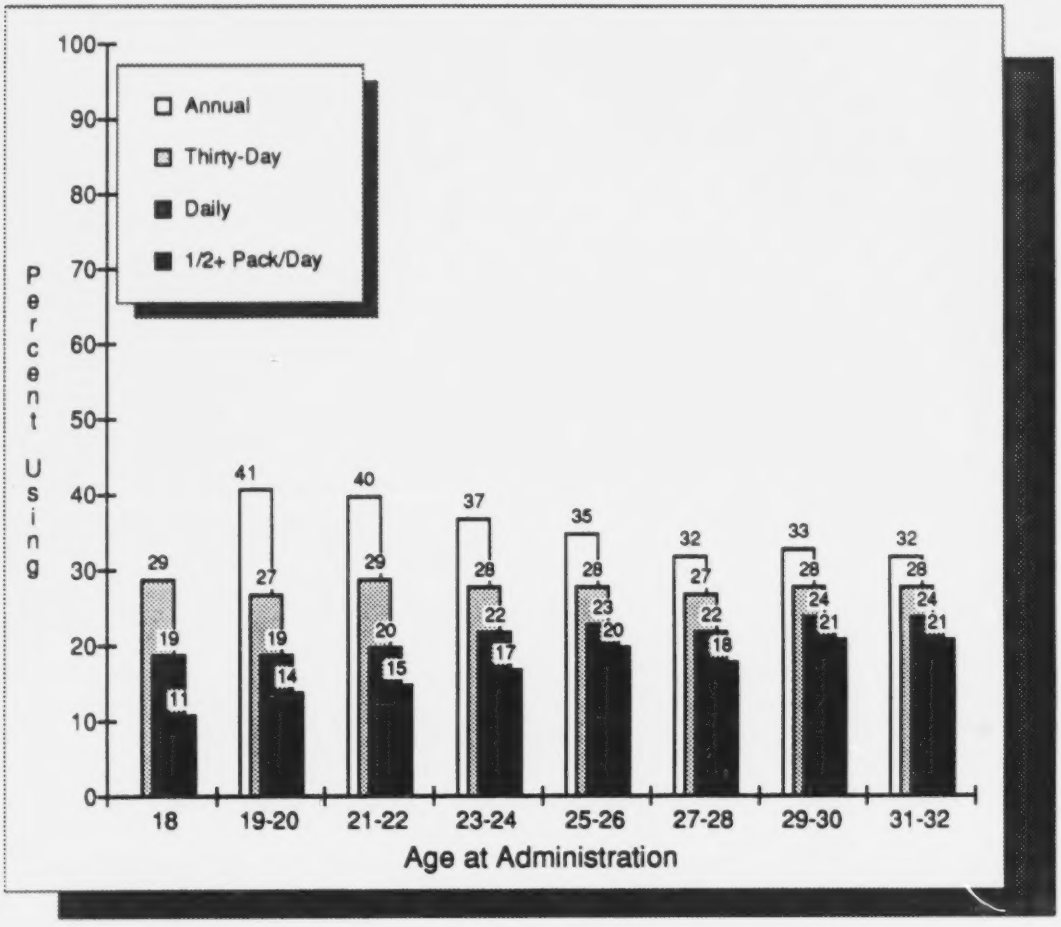


FIGURE 49

Cigarettes: Annual, Thirty-Day, Daily, and Half-Pack Prevalence Among Young Adults, 1990
by Age Group



NOTE: Lifetime prevalence is not asked in the follow-up surveys. Annual prevalence is not asked in the base-year surveys.

PREVALENCE COMPARISONS FOR SUBGROUPS OF YOUNG ADULTS

Sex Differences

- Statistics on usage rates for young adults one to fourteen years beyond high school (modal ages 19 to 32), combined, are given for the total sample and separately for males and females in Table 32.

- In general, it can be seen that most of the sex differences in drug use which pertained in high school may be found in this young adult sample as well. For example, somewhat more males than females report using ***any illicit drug*** during the prior year (32% vs. 26%). Males have higher annual prevalence rates in most of the illicit drugs—with the highest ratios pertaining for ***steroids, nitrites, MDMA, "ice," PCP, LSD, hallucinogens*** in general, ***inhalants, cocaine***, and ***crack*** cocaine specifically. For example, ***crack*** was used by 2.1% of males vs. 1.2% of females during the prior twelve months among the 19 to 32 year olds.

- Other large sex differences are to be found in ***daily marijuana use*** (3.5% for males vs. 1.6% for females in 1990), ***daily alcohol use*** (7.8% vs. 2.8%), and occasions of drinking ***five or more drinks in a row*** in the prior two weeks (44% vs. 22%). The sex difference in occasions of heavy drinking is even greater than it is among high school seniors (where it is 39% for males vs. 24% for females).

- The use of ***stimulants***, which is now about equivalent among males and females in high school, is also similar for both sexes in this post-high school period (5.2% vs. 4.2%).

- ***Crystal methamphetamine ("ice")*** is higher among males (0.6%) than among females (0.2%).

- Unlike most substances, there are few differences between males and females in rates of ***cigarette*** use.

  Among high school seniors in 1990, males and females are equally likely to have smoked ***cigarettes*** in the past month (29%), and to have smoked daily in the past month (19%). Males are slightly more likely than females to smoke at the half-pack level (12% vs. 11%). These sex differences are only a little different among young adults aged 19 to 32: females are slightly more likely than males to have smoked at all in the past month (28% vs. 27%), and to smoke daily (23% vs. 21%), and equally likely to smoke at the half-pack a day level (18%).

TABLE 32

Prevalence of Use of Various Types of Drugs, by Sex, 1990

Among Respondents of Modal Age 19-32

	Males	Females	Total
Approx. Wtd. N =	(4100)	(5000)	(9100)
Any Illicit Drug[e]			
Annual	31.9	26.1	28.7
Thirty-Day	18.4	12.8	15.3
Any Illicit Drug[e] Other than Marijuana			
Annual	18.1	13.7	15.7
Thirty-Day	6.6	5.1	5.8
Marijuana			
Annual	28.5	21.2	24.5
Thirty-Day	16.5	10.5	13.2
Daily	3.5	1.6	2.5
Inhalants[b]			
Annual	2.0	1.0	1.5
Thirty-Day	0.7	0.2	0.4
Nitrites[g]			
Annual	0.8	0.2	0.5
Thirty-Day	0.3	0.0	0.1
Hallucinogens			
Annual	5.0	1.9	3.3
Thirty-Day	1.2	0.4	0.7
LSD			
Annual	4.1	1.4	2.6
Thirty-Day	0.9	0.2	0.5
PCP[g]			
Annual	0.2	0.1	0.2
Thirty-Day	0.2	0.1	0.1
Cocaine			
Annual	11.2	6.3	8.6
Thirty-Day	3.0	1.9	2.4
Crack			
Annual	2.1	1.2	1.6
Thirty-Day	0.5	0.4	0.4
Other Cocaine[f]			
Annual	10.7	5.9	8.1
Thirty-Day	2.8	1.7	2.2
MDMA ("Ecstasy")[c]			
Annual	1.9	0.6	1.2
Thirty-Day	0.4	0.0	0.2
Heroin			
Annual	0.1	0.1	0.1
Thirty-Day	0.1	0.1	0.1
Other Opiates[a]			
Annual	2.6	2.2	2.3
Thirty-Day	0.6	0.6	0.6

(Table continued on next page)

TABLE 32 (Cont.)

Prevalence of Use of Various Types of Drugs, by Sex, 1990

Among Respondents of Modal Age 19–32

	Males	Females	Total
Approx. Wtd. N=	(4100)	(5000)	(9100)
Stimulants, Adjusted[a,d]			
Annual	5.2	4.2	4.7
Thirty-Day	1.9	1.6	1.7
Crystal Methamphetamine ("Ice")[c]			
Annual	0.6	0.2	0.4
Thirty-Day	0.1	0.1	0.1
Barbiturates[a]			
Annual	2.2	1.6	1.9
Thirty-Day	0.8	0.5	0.6
Tranquilizers[a]			
Annual	3.7	3.8	3.8
Thirty-Day	1.0	1.2	1.1
Steroids[g]			
Annual	0.4	0.0	0.2
Thirty-Day	0.0	0.0	0.0
Alcohol			
Annual	88.5	85.8	87.0
Thirty-Day	77.4	65.2	70.7
Daily	7.8	2.8	5.1
5+ drinks in a row in last 2 weeks	44.2	21.8	31.9
Cigarettes			
Annual	35.0	36.5	35.9
Thirty-Day	27.2	28.2	27.8
Daily (Any)	21.3	22.6	22.0
Half-pack or more per day	18.1	17.5	17.8

[a] Only drug use which was not under a doctor's orders is included here.
[b] This drug was asked about in five of the six questionnaire forms. Total N is approximately 7500.
[c] This drug was asked about in two of the six questionnaire forms. Total N is approximately 3700.
[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[e] Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders.
[f] This drug was asked about in four of the six questionnaire forms. Total N is approximately 5600.
[g] This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900.

- ***Steroid*** use is considerably more prevalent among males than among females, as is true among seniors. Among seniors 2.6% of the males reported steroid use in the past year vs. 0.3% of the females. These statistics are much lower among the 19 to 32 year olds—0.4% vs. 0.0%.

- ***MDMA ("ecstasy")*** is over three times higher among males than females in the young adult sample (annual prevalence 1.9% vs. 0.6%, respectively).

Regional Differences

- The regional location of each follow-up respondent is determined by his or her answer to a question about state of current residence. States are then assigned to the same regions used in the analysis of the high school data (see Figure 5, in Volume I). Tables 33, 34, 35, and 36 present regional differences in lifetime prevalence, annual prevalence, 30-day prevalence, and current daily prevalence, for the 19 to 32 year olds combined.

- For ***marijuana*** use regional differences are not very large, except that the South is lower than the Northeast, North Central, and West, as is true among seniors.

- Again consistent with the high school findings, the Northeast and the West show considerably higher rates of annual use of ***cocaine*** than the North Central and the South; but these regional differences are smaller on 30-day prevalence. ***Crack*** cocaine shows a similar pattern.

- The annual use of ***stimulants*** is lowest in the Northeast, again consistent with the high school results.

- The use of ***crystal methamphetamine ("ice")*** is primarily concentrated in the Western region of the country, 1.4% annual prevalence vs. 0.1% to 0.2% for all other regions.

- For the ***remaining illicit drugs*** the annual and 30-day prevalence rates tend to be very low (under 5% and 2% respectively), making regional differences small in absolute terms, even when there are any. The specifics may be gleaned from Tables 34 and 35.

- ***MDMA ("ecstasy")*** shows the highest annual prevalence (2%) in the West.

- The annual and 30-day prevalence rates for ***alcohol*** are somewhat higher in the Northeast and North Central than in the Southern and Western parts of the country, as is true for seniors.

Occasional heavy drinking shows the same pattern: 34%, 35%, 29% and 30% for the Northeast, North Central, South, and West respectively. (See Table 36.)

- Like the senior data, ***cigarette smoking*** in these older age groups is lowest in the West and highest in the Northeast and North Central.

Differences Related to Population Density

- Population density was measured by asking the respondent to check which of a number of listed alternatives best described the size and nature of the community in which he or she resided during March of that year. The major answer alternatives are listed in Table 33 and the population size given to the respondent to help define each level is provided in the footnote. (Examinations of the 1987 and 1988 drug use data for the two most urban strata revealed that the modest differences in prevalence rates between the suburbs and the corresponding cities were not worth the complexity of reporting them separately; accordingly, these categories were merged.) See Tables 34 through 36 for the relevant results discussed below.

- For ***most of the illicit drugs*** there is not a positive association between size of community and prevalence of use, which may be a counter-intuitive finding for many.

- Among the exceptions is ***marijuana***, which shows a modest positive association with population density, due primarily to the lowest category (farm/country) having below-average rates of annual and 30-day prevalence. There are few differences otherwise.

- Use in the past year of ***hallucinogens***, including ***LSD*** and ***MDMA***, is also lower than average in the farm/country, as are usage rates for ***inhalants*** and ***any illicit drug***.

- ***Cocaine*** use has a modest positive association with population density—much of it due to the farm/country and small town strata having lower than average usage rates.

- Although the overall prevalence rates are very low, the use of ***crystal methamphetamine ("ice")*** is mostly concentrated in the large cities and very large cities (0.8% and 0.6%, respectively vs. 0.1% to 0.3% for the other strata).

- Most of the ***alcohol*** use measures show a slight positive association with population density. ***Occasions of heavy drinking***, however, are about the same across all strata except farm/country, which has a slightly lower rate.

- By way of contrast, ***cigarette smoking*** is highest in the farm/country stratum and lowest in the large cities.

Table 33

Lifetime[e] Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug	Any Illicit Drug Other than Marijuana	Marijuana	Inhalants[a,b]	Nitrites[c]	Hallucinogens[a]
Total	9100	67.1	43.5	62.9	12.3	3.1	18.0
Sex:							
Male	4100	67.9	44.8	64.9	15.8	4.7	22.8
Female	5000	66.3	42.5	61.2	9.4	1.6	14.0
Modal Age:							
19-20	1500	51.6	29.4	46.2	14.9	*	11.1
21-22	1400	62.5	36.9	58.3	12.1	*	14.8
23-24	1300	67.1	43.3	62.9	11.1	*	16.1
25-26	1200	70.9	47.3	67.1	12.6	*	19.0
27-28	1200	73.4	50.0	70.2	11.1	*	20.8
29-30	1200	73.4	50.9	69.3	12.1	*	21.5
31-32	1200	75.3	51.3	71.6	11.9	*	24.9
Region:							
Northeast	1900	71.0	46.0	67.7	13.6	*	20.8
North Central	2500	66.6	42.0	63.1	11.7	*	18.4
South	2900	62.7	39.6	57.5	11.1	*	14.3
West	1700	70.9	50.1	66.5	14.2	*	20.8
Population Density:[d]							
Farm/Country	1200	62.2	39.5	56.7	10.1	*	14.5
Small Town	2600	63.6	41.0	59.0	11.6	*	17.1
Medium City	2100	68.2	44.4	64.2	13.3	*	18.1
Large City	1900	70.3	44.6	66.6	12.9	*	19.1
Very Large City	1300	72.5	48.9	69.2	13.6	*	21.3

[a]Unadjusted for known underreporting of certain drugs. See text for details.

[b]This drug was asked about in five of the six questionnaire forms.

[c]This drug was asked about in one of the six questionnaire forms. An asterisk indicates that Ns are too small to provide reliable estimates.

[d]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

[e]Lifetime prevalence is uncorrected for any cross-time inconsistencies in responding.

Table 33, cont.

Lifetime[d] Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	LSD	PCP[a]	MDMA[b]	Cocaine	Crack	Heroin	Other Opiates
Total	15.0	4.7	3.4	26.6	5.7	1.2	10.2
Sex:							
Male	19.4	6.7	4.7	30.6	7.1	1.8	12.1
Female	11.3	3.1	2.3	23.3	4.4	0.8	8.5
Modal Age:							
19-20	9.7	*	2.8	11.6	2.6	0.5	7.9
21-22	12.8	*	4.3	18.8	4.2	0.6	7.8
23-24	13.5	*	5.0	24.9	6.5	0.8	9.7
25-26	15.7	*	2.8	30.8	7.0	1.3	11.2
27-28	16.9	*	3.4	35.7	5.9	1.2	10.9
29-30	17.8	*	2.3	34.8	7.3	1.7	13.0
31-32	20.1	*	2.8	34.8	7.1	2.8	11.6
Region:							
Northeast	16.1	*	2.4	32.5	6.1	1.5	10.2
North Central	16.0	*	1.9	22.9	4.6	1.1	10.9
South	12.3	*	4.3	21.2	4.9	0.9	8.8
West	16.9	*	5.2	35.4	8.3	1.8	11.6
Population Density:[c]							
Farm/Country	12.8	*	1.3	20.0	4.5	1.2	9.0
Small Town	14.5	*	2.1	23.8	5.1	1.2	9.6
Medium City	14.9	*	4.3	27.9	6.5	1.0	10.2
Large City	15.8	*	4.1	28.6	6.2	1.4	11.0
Very Large City	17.0	*	5.4	33.1	5.9	1.6	11.3

[a]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900. An asterisk indicates that Ns are too small to provide reliable estimates.

[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3700.

[c]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

[d]Lifetime prevalence is uncorrected for any cross-time inconsistencies in responding.

Table 33, cont.

Lifetime[e] Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol	Cigarettes
Total	27.0	11.1	2.9	15.8	0.9	94.5	NA
Sex:							
Male	27.8	13.2	3.6	16.3	2.0	94.8	NA
Female	26.2	9.3	2.1	15.3	0.0	94.2	NA
Modal Age:							
19-20	16.1	4.8	1.5	7.5	*	91.1	NA
21-22	19.6	6.1	2.6	9.4	*	94.9	NA
23-24	25.0	8.4	2.6	13.0	*	95.9	NA
25-26	30.0	12.2	3.6	17.2	*	95.2	NA
27-28	33.6	13.2	2.3	19.2	*	94.8	NA
29-30	33.6	15.8	3.5	22.3	*	95.9	NA
31-32	34.6	20.0	4.2	25.4	*	94.3	NA
Region:							
Northeast	26.6	11.4	2.2	16.6	*	96.1	NA
North Central	28.4	10.8	2.3	14.3	*	96.2	NA
South	24.6	11.8	2.4	16.7	*	92.4	NA
West	30.3	10.4	5.4	15.9	*	93.9	NA
Population Density:[d]							
Farm/Country	26.2	11.2	2.5	14.7	*	92.7	NA
Small Town	26.8	10.9	2.5	15.1	*	94.5	NA
Medium City	26.9	10.7	2.9	16.0	*	94.0	NA
Large City	27.0	11.1	3.1	16.7	*	95.3	NA
Very Large City	28.1	12.1	3.4	17.0	*	96.0	NA

[a]Based on the data from the revised question, which attepts to exclude the inappropriate reporting of non-prescription stimulants.

[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3700.

[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900. An asterisk indicates that Ns are too small to provide reliable estimates.

[d]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

[e]Lifetime prevalence is uncorrected for any cross-time inconsistencies in responding.

Table 34

Annual Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug	Any Illicit Drug Other than Marijuana	Marijuana	Inhalants[a,b]	Nitrites[c]	Hallucinogens[a]
Total	9100	28.7	15.7	24.5	1.5	0.5	3.3
Sex:							
Male	4100	31.9	18.1	28.5	2.0	0.8	5.0
Female	5000	26.1	13.7	21.2	1.0	0.2	1.9
Modal Age:							
19-20	1500	32.3	16.5	28.4	4.0	*	6.3
21-22	1400	32.7	17.4	28.2	2.3	*	5.0
23-24	1300	30.7	17.5	26.6	1.4	*	4.4
25-26	1200	29.6	16.6	24.1	0.5	*	2.3
27-28	1200	27.4	15.2	22.6	0.7	*	1.8
29-30	1200	23.0	12.4	20.0	0.3	*	1.2
31-32	1200	23.7	13.8	19.8	0.3	*	1.0
Region:							
Northeast	1900	31.3	15.2	27.3	1.6	*	2.9
North Central	2500	27.9	14.6	24.5	1.3	*	3.1
South	2900	25.4	14.8	20.8	1.5	*	2.9
West	1700	32.9	19.7	27.6	1.4	*	4.5
Population Density:[d]							
Farm/Country	1200	22.8	12.6	18.3	0.6	*	2.1
Small Town	2600	27.8	14.7	23.8	1.5	*	3.1
Medium City	2100	30.9	16.8	26.7	1.7	*	3.5
Large City	1900	28.7	15.6	24.8	1.8	*	3.6
Very Large City	1300	32.4	18.9	27.3	1.1	*	3.9

[a]Unadjusted for known underreporting of certain drugs. See text for details.

[b]This drug was asked about in five of the six questionnaire forms. Total N is approximately 7500.

[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900. An asterisk indicates that Ns are too small to provide reliable estimates.

[d]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

Table 34, cont.
Annual Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	LSD	PCP[a]	MDMA[b]	Cocaine	Crack	Heroin	Other Opiates
Total	2.6	0.2	1.2	8.6	1.6	0.1	2.3
Sex:							
Male	4.1	0.2	1.9	11.2	2.1	0.1	2.6
Female	1.4	0.1	0.6	6.3	1.2	0.1	2.2
Modal Age:							
19-20	5.3	*	2.2	5.6	1.0	0.1	3.9
21-22	4.0	*	2.0	8.7	1.6	0.1	2.7
23-24	3.5	*	1.5	9.5	2.1	0.1	2.7
25-26	1.8	*	1.0	9.9	2.3	0.1	2.3
27-28	1.5	*	0.7	9.9	1.3	0.0	1.5
29-30	0.8	*	0.3	8.1	1.7	0.2	1.5
31-32	0.6	*	0.5	8.9	1.5	0.1	1.4
Region:							
Northeast	2.1	*	0.9	10.1	1.7	0.2	2.0
North Central	2.7	*	0.5	7.5	1.3	0.1	2.3
South	2.4	*	1.5	7.0	1.5	0.1	2.1
West	3.2	*	2.0	11.3	2.1	0.1	3.1
Population Density:[c]							
Farm/Country	1.9	*	0.4	6.0	1.2	0.1	2.2
Small Town	2.6	*	0.8	7.6	1.6	0.2	2.2
Medium City	2.4	*	1.7	9.2	2.1	0.1	2.4
Large City	3.1	*	1.1	8.9	1.4	0.1	2.5
Very Large City	3.0	*	2.3	10.9	1.5	0.1	2.0

[a]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900. An asterisk indicates that Ns are too small to provide reliable estimates.

[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3700.

[c]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

Table 34, cont.

Annual Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol	Cigarettes
Total	4.7	1.9	0.4	3.8	0.2	87.0	35.9
Sex:							
Male	5.2	2.2	0.6	3.7	0.4	88.5	35.0
Female	4.2	1.6	0.2	3.8	0.0	85.8	36.5
Modal Age:							
19-20	6.6	1.7	0.3	3.0	*	85.6	40.8
21-22	5.5	1.7	0.7	3.6	*	89.6	39.6
23-24	5.3	2.3	0.4	3.8	*	88.2	36.9
25-26	4.0	2.2	0.3	5.0	*	87.5	35.4
27-28	4.3	1.8	0.5	3.3	*	86.4	31.5
29-30	2.7	1.6	0.3	3.9	*	86.9	32.6
31-32	3.7	2.2	0.3	3.8	*	84.8	32.3
Region:							
Northeast	2.2	1.8	0.1	3.5	*	92.5	36.9
North Central	5.1	1.9	0.2	3.2	*	90.3	38.7
South	5.1	2.4	0.1	4.7	*	81.3	35.5
West	6.3	1.4	1.4	3.3	*	86.0	30.2
Population Density:[d]							
Farm/Country	4.3	2.0	0.2	3.7	*	81.5	38.8
Small Town	5.4	2.2	0.1	3.6	*	85.9	36.5
Medium City	5.2	2.4	0.3	3.9	*	87.8	35.9
Large City	4.4	1.2	0.8	3.6	*	89.4	34.6
Very Large City	3.0	1.6	0.6	4.1	*	90.3	32.5

[a]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3700.

[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900. An asterisk indicates that Ns are too small to provide reliable estimates.

[d]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

Table 35

Thirty-Day Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Any Illicit Drug	Any Illicit Drug Other than Marijuana	Marijuana	Inhalants[a,b]	Nitrites[c]	Hallucinogens[a]
Total	9100	15.3	5.8	13.2	0.4	0.1	0.7
Sex:							
Male	4100	18.4	6.6	16.5	0.7	0.3	1.2
Female	5000	12.8	5.1	10.5	0.2	0.0	0.4
Modal Age:							
19-20	1500	16.4	5.7	15.2	1.1	*	1.8
21-22	1400	16.2	6.0	14.3	0.3	*	1.1
23-24	1300	15.6	6.7	13.4	0.8	*	0.6
25-26	1200	16.3	6.6	13.4	0.2	*	0.4
27-28	1200	14.8	5.0	12.9	0.3	*	0.4
29-30	1200	13.5	5.0	11.5	0.0	*	0.3
31-32	1200	14.0	5.3	11.5	0.2	*	0.3
Region:							
Northeast	1900	16.5	6.0	14.5	0.4	*	0.8
North Central	2500	15.6	4.8	14.2	0.4	*	0.7
South	2900	13.7	5.9	11.1	0.5	*	0.7
West	1700	16.9	7.1	14.3	0.4	*	0.9
Population Density:[d]							
Farm/Country	1200	12.4	4.3	10.7	0.1	*	0.4
Small Town	2600	14.8	5.6	12.8	0.5	*	0.6
Medium City	2100	17.2	7.0	14.7	0.4	*	0.9
Large City	1900	15.0	5.6	13.6	0.7	*	1.2
Very Large City	1300	16.6	5.9	13.8	0.3	*	0.6

[a]Unadjusted for known underreporting of certain drugs. See text for details.

[b]This drug was asked about in five of the six questionnaire forms. Total N is approximately 7500.

[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900. An asterisk indicates that Ns are too small to provide reliable estimates.

[d]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

Table 35, cont.

Thirty-Day Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	LSD	PCP[a]	MDMA[b]	Cocaine	Crack	Heroin	Other Opiates
Total	0.5	0.1	0.2	2.4	0.4	0.1	0.6
Sex:							
Male	0.9	0.2	0.4	3.0	0.5	0.1	0.6
Female	0.2	0.1	0.0	1.9	0.4	0.1	0.6
Modal Age:							
19-20	1.4	*	0.5	1.3	0.2	0.0	0.8
21-22	0.8	*	0.2	2.1	0.3	0.1	0.7
23-24	0.3	*	0.2	2.8	0.4	0.1	0.7
25-26	0.2	*	0.0	3.3	0.6	0.1	0.6
27-28	0.3	*	0.1	2.8	0.4	0.0	0.6
29-30	0.2	*	0.0	2.2	0.5	0.0	0.5
31-32	0.1	*	0.2	2.9	0.8	0.1	0.3
Region:							
Northeast	0.5	*	0.1	3.3	0.7	0.1	0.6
North Central	0.4	*	0.1	1.9	0.2	0.0	0.7
South	0.5	*	0.1	2.0	0.4	0.1	0.5
West	0.7	*	0.4	3.1	0.7	0.0	0.8
Population Density:[c]							
Farm/Country	0.4	*	0.4	1.7	0.3	0.1	0.6
Small Town	0.3	*	0.1	2.2	0.4	0.1	0.5
Medium City	0.6	*	0.0	3.2	0.5	0.0	0.8
Large City	0.9	*	0.2	2.2	0.4	0.1	0.5
Very Large City	0.4	*	0.4	2.7	0.5	0.0	0.7

[a]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900. An asterisk indicates that Ns are too small to provide reliable estimates.

[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3700.

[c]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

Table 35, cont.
Thirty-Day Prevalence of Use of Various Types of Drugs, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	Stimulants[a]	Barbiturates	"Ice"[b]	Tranquilizers	Steroids[c]	Alcohol	Cigarettes
Total	1.7	0.6	0.1	1.1	0.0	70.7	27.8
Sex:							
Male	1.9	0.8	0.1	1.0	0.0	77.4	27.2
Female	1.6	0.5	0.1	1.2	0.0	65.2	28.2
Modal Age:							
19-20	2.1	0.4	0.1	0.5	*	66.6	27.2
21-22	1.9	0.6	0.2	1.3	*	74.1	28.6
23-24	2.2	0.7	0.1	1.0	*	73.6	27.8
25-26	1.7	0.8	0.1	1.5	*	71.4	28.4
27-28	1.6	0.5	0.1	1.2	*	70.9	26.5
29-30	1.0	0.7	0.0	1.2	*	70.2	27.8
31-32	1.6	0.6	0.1	1.1	*	68.4	28.3
Region:							
Northeast	0.6	0.7	0.0	1.5	*	75.7	29.1
North Central	1.7	0.5	0.0	0.7	*	75.1	30.5
South	2.0	0.8	0.0	1.5	*	63.6	27.5
West	2.9	0.4	0.4	0.8	*	70.6	22.2
Population Density:[d]							
Farm/Country	1.3	0.7	0.1	1.2	*	61.0	31.7
Small Town	2.0	0.8	0.0	1.0	*	69.0	28.5
Medium City	2.2	0.6	0.0	1.3	*	71.9	27.0
Large City	1.8	0.4	0.3	1.1	*	73.7	27.0
Very Large City	0.9	0.5	0.1	1.1	*	76.9	24.2

[a]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[b]This drug was asked about in two of the six questionnaire forms. Total N is approximately 3700.

[c]This drug was asked about in one of the six questionnaire forms. Total N is approximately 1900. An asterisk indicates that Ns are too small to provide reliable estimates.

[d]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

Table 36

Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes, by Subgroups, 1990
Among Respondents of Modal Age 19-32

(Entries are percentages)

	Approx. Weighted N	Marijuana Daily	Alcohol Daily	Alcohol: 5+ drinks in a row in past 2 weeks	Cigarettes Daily	Cigarettes: Half pack or more per day
Total	9100	2.5	5.1	31.9	22.0	17.8
Sex:						
Male	4100	3.5	7.8	44.2	21.3	18.1
Female	5000	1.6	2.8	21.8	22.6	17.5
Modal Age:						
19-20	1500	2.3	4.0	36.0	19.2	14.3
21-22	1400	2.5	4.9	38.1	20.2	15.0
23-24	1300	2.7	5.3	35.5	22.2	17.4
25-26	1200	2.7	4.8	32.0	23.3	19.6
27-28	1200	2.4	4.9	28.9	22.2	18.2
29-30	1200	2.2	5.6	25.2	24.2	20.5
31-32	1200	2.2	6.4	25.4	23.9	20.8
Region:						
Northeast	1900	2.7	5.5	34.0	24.0	19.0
North Central	2500	2.8	5.0	34.9	24.7	20.4
South	2900	1.8	4.7	28.9	21.9	17.8
West	1700	2.9	5.2	29.8	15.5	12.0
Population Density:[a]						
Farm/Country	1200	2.8	4.8	27.1	26.5	22.7
Small Town	2600	2.3	4.7	33.8	22.5	18.1
Medium City	2100	2.4	5.2	32.0	21.7	17.5
Large City	1900	2.9	5.0	32.3	21.3	16.7
Very Large City	1300	2.1	5.8	31.9	17.6	13.8

[a]A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

Chapter 15

TRENDS IN DRUG USE AMONG YOUNG ADULTS POST-HIGH SCHOOL

Trends in the use of the various licit and illicit drugs by all high school graduates from one to fourteen years beyond high school are presented in this chapter. Figures 50 through 64 plot separate trend lines for two-year age strata (that is, 1–2 years beyond high school, 3–4 years beyond high school, etc.) in order to damp down the random fluctuations which would be seen with one-year strata. (These two-year strata are not strictly speaking age-strata, because they are based on all respondents from adjacent high school classes, and they do not take account of individual respondents' ages; but they are close approximations to age-strata, and we will characterize them by the modal age of the respondents, as age 19–20, 21–22, and so on.) Each data point in these figures is based on approximately 1200 weighted cases drawn from two adjacent high school classes; actual (unweighted) numbers of cases are somewhat higher. For the 1990 data, the 19–20 year old stratum is comprised of participating respondents from the classes of 1989 and 1988, respectively, the 21–22 year old stratum contains data from the classes of 1987 and 1986, and so on.

TRENDS IN PREVALENCE THROUGH 1990: YOUNG ADULTS

- Trends in use by young adults may be found in Tables 37 through 41, as well as in Figures 50 through 64.

- For most drugs, the trends in use among the older age groups have paralleled the changes among seniors discussed in Chapter 5, Volume I. This means that many of the changes have been secular trends—that is, they are observable across the various age groups. This has generally been true for the recent downward trends in the lifetime, annual, and 30-day prevalence measures for the use of ***any illicit drug***, ***marijuana***, and ***tranquilizers***. (***LSD*** and ***opiates other than heroin*** both began to level out in 1987, ***barbiturates*** and ***methaqualone*** in 1988.) All age groups also continued the important decline in ***cocaine*** first observed in 1987.

- Several of these drug classes have actually exhibited a faster decline in use during recent years among these older age groups than among the high school seniors. These include ***any illicit drug***, ***stimulants***, ***hallucinogens***, ***LSD***, and ***methaqualone***.

- The ***alcohol*** statistics for the older age groups (see Figure 63) also generally have tracked those reported for seniors (meaning a very gradual increase in the late 70's followed by a leveling and then a period of gradual decline), with one important exception. The

downward shifts during the 80's in ***30-day prevalence*** and ***occasions of heavy drinking*** have been greater for the two youngest age strata (seniors and those 1–2 years past high school) than for the older age groups. These differential trends are due in part to the effects of changes in minimum drinking age laws in many states.[11] However, because similar (smaller) trends are evident among high school seniors in states that have maintained a constant minimum drinking age of 21, the changed laws cannot account for all the trends.

- The prevalence statistics for ***cigarette smoking*** do not tend to show parallel trends across age groups (Figure 64). While the curves are of the same general shape for each age group, each curve tends to be displaced to the right of the one for the immediately preceding age group (which was two years younger). Note that this pattern is very similar to the one described earlier for lifetime smoking rates for various grade levels below senior year: it is the classic pattern exhibited when there is a "cohort effect" present, meaning that a class cohort tends to be different from other cohorts in a consistent way across the life span. This is how we interpret the cigarette data (O'Malley et al., 1988, referenced earlier), and we believe that the cohort differences tend to remain throughout the lifespan due to the highly addictive nature of nicotine. The declining levels of ***cigarette smoking*** observed in the classes of 1978, 1979, and 1980 when they were seniors are now observable for the same classes in their late-twenties (see Figure 64b). However, the other age groups covered (which correspond to other graduating classes) show more modest declines in the same period.

  With one exception, none of the other drugs studied here shows the clear pattern of enduring cohort differences, despite wide variations in their use by different cohorts at a given age. (There is a modest cohort effect observed for daily marijuana use, and it may be in part attributable to the very strong association between that behavior and cigarette smoking.)

- Tables 37 through 41 present the trends in prevalence since 1986 for all respondents one to ten years beyond high school combined, which corresponds to the modal ages of 19 through 28. The tables show that in 1990 there were significant declines in this entire age-band of young adults in the proportion reporting the use in the past year of ***any illicit drug*** and ***any illicit drug other than marijuana***. The annual prevalence rates for ***marijuana***, ***cocaine***, and ***crack*** also declined significantly (Table 38). All of these changes parallel those observed among seniors. Much of the

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[11]O'Malley, P.M., & Wagenaar, A.C. (1990). Minimum drinking age laws effects on American youth. Monitoring the Future Occasional Paper 28. Institute for Social Research: Ann Arbor, MI.

decrease in the illicit drug use indexes is due to the significant declines in cocaine use among all age groups, including high school seniors.

- The important downturn in ***cocaine***, observed for the first time among all age groups in 1987, continued almost as sharply through 1990 in the age groups encompassed here (see Figure 57). The proportion of 19 to 28 year olds reporting any ***cocaine*** use in the prior year dropped by one-fifth (to 8.6%) in 1990.

- ***Crack*** use continued to decline in this age group, as well as among seniors (see Figure 58). Among 19 to 28 year olds the annual prevalence rate went from 2.5% to 1.6%.

- There appear to be continuing, very gradual declines among young adults in their use of ***stimulants*** which fell from 5.8% to 5.2% in annual prevalence among 19 to 28 year olds (not statistically significant), and which fell significantly among seniors.

- ***LSD*** was the only drug to show a statistically significant increase in 1990 among 19 to 28 year olds. Annual prevalence rose from 2.7% to 3.3%. Among seniors it also rose (from 4.9% to 5.4%) but was not statistically significant.

- The use of ***heroin*** and ***opiates other than heroin*** remained stable for both seniors and young adults.

- In sum, except for cigarettes, high school seniors and young adults show longer-term trends in substance use, as well as near-term trends, which tend to be highly parallel. Although divergent trends would not necessarily demonstrate a lack of validity in either set of data (because such a divergence could occur as the result of cohort differences), we believe that the high degree of *convergence* provides an important source of validation of the trends reported earlier for the seniors. In fact, each of these sets of data helps to validate the "trend story" reported by the other.

TRENDS FOR IMPORTANT SUBGROUPS OF YOUNG ADULTS

Four-year age groupings have been used here to examine subgroup trends in order to have sufficiently large numbers of cases to make reliable estimates for the subgroups. Subgroup data for respondents of each sex, and for respondents from communities of different size, are available for 19 to 22 year olds since 1980, 23 to 26 year olds since 1984, and 27 to 30 year olds since 1988. Information on region of the country was included in the follow-up surveys beginning in 1987, so trend data are available for the four regions since then. (These subgroup trend data are not given here in tabular form.)

TABLE 37

Trends in Lifetime[k] Prevalence of Various Types of Drugs

Among Respondents of Modal Age 19–28

	Percent who used in lifetime					
	1986	1987	1988	1989	1990	'89–'90 change
Approx. Wtd. N =	(6900)	(6800)	(6700)	(6600)	(6700)	
Any Illicit Drug[h]	70.5	69.9	67.9	66.4	64.5	−1.9s
Any Illicit Drug[h] Other than Marijuana	48.4	47.0	44.6	42.7	40.8	−1.9s
Marijuana	66.5	66.0	63.8	62.8	60.2	−2.6ss
Inhalants[b]	12.3	12.7	12.6	13.2	12.5	−0.7
Inhalants, Adjusted[b,e]	18.6	15.7	15.0	NA	13.5	NA
Nitrites[f]	12.6	6.9	6.2	NA	1.9	NA
Hallucinogens	18.5	17.1	17.0	15.9	16.1	+0.2
Hallucinogens, Adjusted[g]	20.1	17.2	17.2	NA	16.5	NA
LSD	14.6	13.7	13.8	12.7	13.5	+0.8
PCP[f]	8.4	4.8	5.0	NA	2.5	NA
Cocaine	32.0	29.3	28.2	25.8	23.7	−2.1ss
Crack[c]	NA	6.3	6.9	6.1	5.1	−1.0s
Other Cocaine[j]	NA	28.2	25.2	25.4	22.1	−3.3s
MDMA ("Ecstasy")[i]	NA	NA	NA	3.3	3.7	+0.4
Heroin	1.3	1.3	1.1	1.0	0.9	−0.1
Other Opiates[a]	10.7	10.6	9.8	9.6	9.4	−0.2
Stimulants, Adjusted[a,d]	32.3	30.8	28.8	25.3	24.4	−0.9
Crystal Methamphetamine ("Ice")[i]	NA	NA	NA	NA	2.5	NA
Sedatives[a]	16.7	15.0	13.2	12.1	NA	NA
Barbiturates[a]	11.1	9.7	8.9	7.9	8.7	+0.8
Methaqualone[a]	13.1	11.6	9.7	8.7	NA	NA
Tranquilizers[a]	17.6	16.5	15.1	13.5	12.9	−0.6
Alcohol	94.8	94.9	94.8	94.5	94.3	−0.2
Cigarettes	NA	NA	NA	NA	NA	NA
Steroids[f]	NA	NA	NA	1.1	1.2	+0.1

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms in 1986–89, and five of the six questionnaire forms in 1990. Total N in 1990 is approximately 5500.

[c] This drug was asked about in two of the five questionnaire forms in 1987–89, and in all six questionnaire forms in 1990.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[e] Adjusted for underreporting of amyl and butyl nitrites. See text.

[f] This drug was asked about in one questionnaire form. Total N in 1990 is approximately 1400.

[g] Adjusted for underreporting of PCP. See text.

[h] Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (until 1990), or tranquilizers not under a doctor's orders.

[i] This drug was asked about in two questionnaire forms. Total N in 1990 is approximately 2700.

[j] This drug was asked about in one of the five questionnaire forms in 1987–89, and in four of the six questionnaire forms in 1990. Total N in 1990 is approximately 4200.

[k] Lifetime prevalence is uncorrected for any cross-time inconsistencies in responding. See text.

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TABLE 38

Trends in Annual Prevalence of Various Types of Drugs

Among Respondents of Modal Age 19-28

	Percent who used in last twelve months					
	1986	1987	1988	1989	1990	'89-'90 change
Approx. Wtd. N =	(6900)	(6800)	(6700)	(6600)	(6700)	
Any Illicit Drug[h]	41.9	39.3	36.3	32.8	30.7	-2.1ss
Any Illicit Drug[h] Other than Marijuana	27.0	23.9	21.3	18.3	16.7	-1.6s
Marijuana	36.5	34.8	31.8	29.0	26.1	-2.9sss
Inhalants[b]	1.9	2.1	1.8	1.9	1.9	0.0
Inhalants, Adjusted[b,e]	3.0	2.8	2.4	NA	2.1	NA
Nitrites[f]	2.0	1.3	1.0	NA	0.4	NA
Hallucinogens	4.5	4.0	3.9	3.6	4.1	+0.5
Hallucinogens, Adjusted[g]	4.9	4.1	3.9	NA	4.2	NA
LSD[f]	3.0	2.9	2.9	2.7	3.3	+0.6s
PCP[f]	0.8	0.4	0.4	NA	0.2	NA
Cocaine	19.7	15.7	13.8	10.8	8.6	-2.2sss
Crack[c]	3.2	3.1	3.1	2.5	1.6	-0.9ss
Other Cocaine[j]	NA	13.6	11.9	10.3	8.1	-2.2s
MDMA ("Ecstasy")[i]	NA	NA	NA	1.4	1.5	+0.1
Heroin	0.2	0.2	0.2	0.2	0.1	-0.1
Other Opiates[a]	3.1	3.1	2.7	2.8	2.7	-0.1
Stimulants, Adjusted[a,d]	10.6	8.7	7.3	5.8	5.2	-0.6
Crystal Methamphetamine ("Ice")[i]	NA	NA	NA	NA	0.4	NA
Sedatives[a]	3.0	2.5	2.1	1.8	NA	NA
Barbiturates[a]	2.3	2.1	1.8	1.7	1.9	+0.2
Methaqualone[a]	1.3	0.9	0.5	0.3	NA	NA
Tranquilizers[a]	5.4	5.1	4.2	3.7	3.7	0.0
Alcohol	88.6	89.4	88.6	88.1	87.4	-0.7
Cigarettes	40.1	40.3	37.7	38.0	37.1	-0.9
Steroids[f]	NA	NA	NA	0.5	0.3	-0.2

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms in 1986-89 (N was four-fifths of N indicated), and five of the six questionnaire forms in 1990. Total N in 1990 is approximately 5500.

[c] This drug was asked about in one of the five questionnaire forms in 1986, in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[e] Adjusted for underreporting of amyl and butyl nitrites. See text.

[f] This drug was asked about in one questionnaire form. Total N in 1990 is approximately 1400.

[g] Adjusted for underreporting of PCP. See text.

[h] Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (until 1990), or tranquilizers not under a doctor's orders.

[i] This drug was asked about in two questionnaire forms. Total N in 1990 is approximately 2700.

[j] This drug was asked about in one of the five questionnaire forms in 1987-89, and in four of the six questionnaire forms in 1990. Total N in 1990 is approximately 4200.

TABLE 39

Trends in Thirty-Day Prevalence of Various Types of Drugs

Among Respondents of Modal Age 19-28

	Percent who used in last thirty days					
	1986	1987	1988	1989	1990	'89-'90 change
Approx. Wtd. N =	(6900)	(6800)	(6700)	(6600)	(6700)	
Any Illicit Drug[h]	25.8	23.4	20.5	17.7	15.9	-1.8ss
Any Illicit Drug[h] Other than Marijuana	15.0	10.7	9.5	7.5	6.0	-1.5sss
Marijuana	22.0	20.7	17.9	15.5	13.9	-1.6ss
Inhalants[b]	0.4	0.6	0.6	0.5	0.6	+0.1
Inhalants, Adjusted[b,e]	0.7	0.9	0.9	NA	0.7	NA
Nitrites[f]	0.5	0.5	0.4	NA	0.1	NA
Hallucinogens	1.3	1.2	1.1	1.1	0.9	-0.2
Hallucinogens, Adjusted[g]	1.4	1.2	1.1	NA	1.0	NA
LSD	0.9	0.8	0.8	0.8	0.6	-0.2
PCP[f]	0.2	0.1	0.3	NA	0.2	NA
Cocaine	8.2	6.0	5.7	3.8	2.4	-1.4sss
Crack[c]	NA	1.0	1.2	0.7	0.4	-0.3
Other Cocaine[j]	NA	4.8	4.8	3.4	2.1	-1.3ss
MDMA[i]	NA	NA	NA	0.4	0.2	-0.2
Heroin	0.1	0.1	0.1	0.1	0.1	0.0
Other Opiates[a]	0.9	0.9	0.7	0.7	0.7	0.0
Stimulants, Adjusted[a,d]	4.0	3.2	2.7	2.1	1.9	-0.2
Crystal Methamphetamine("Ice")[i]	NA	NA	NA	NA	0.1	NA
Sedatives[a]	0.9	0.8	0.7	0.5	NA	NA
Barbiturates[a]	0.7	0.7	0.7	0.5	0.6	+0.1
Methaqualone[a]	0.3	0.2	0.1	0.0	NA	NA
Tranquilizers[a]	1.8	1.6	1.4	1.2	1.1	-0.1
Alcohol	75.1	75.4	74.0	72.4	71.2	-1.2
Cigarettes	31.1	30.9	28.9	28.6	27.7	-0.9
Steroids[f]	NA	NA	NA	0.2	0.1	-0.1

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms in 1986-89 (N was four-fifths of N indicated), and five of the six questionnaire forms in 1990. Total N in 1990 is approximately 5500.

[c] This drug was asked about in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[e] Adjusted for underreporting of amyl and butyl nitrites. See text.

[f] This drug was asked about in one questionnaire form. Total N in 1990 is approximately 1400.

[g] Adjusted for underreporting of PCP. See text.

[h] Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (until 1990), or tranquilizers not under a doctor's orders.

[i] This drug was asked about in two questionnaire forms. Total N in 1990 is approximately 2700.

[j] This drug was asked about in one of the five questionnaire forms in 1987-89, and in four of the six questionnaire forms in 1990. Total N in 1990 is approximately 4200.

TABLE 40

Trends in Thirty-Day Prevalence of Daily Use of Various Types of Drugs

Among Respondents of Modal Age 19-28

	Percent using daily in last thirty days					
	1986	1987	1988	1989	1990	'89-'90 change[h]
Approx. Wtd. N =	(6900)	(6800)	(6700)	(6600)	(6700)	
Marijuana	4.1	4.2	3.3	3.2	2.5	-0.7s
Inhalants[b]	0.0	0.0	0.0	0.1	0.0	-0.1
Inhalants, Adjusted[b,e]	0.0	0.0	0.0	NA	0.1	NA
Nitrites[f]	0.0	0.0	0.1	NA	0.1	NA
Hallucinogens	0.0	0.0	0.0	0.0	0.0	0.0
Hallucinogens, Adjusted[g]	0.0	0.0	0.0	NA	0.0	NA
LSD[f]	0.0	0.0	0.0	0.0	0.0	0.0
PCP[f]	0.0	0.0	0.1	NA	0.1	NA
Cocaine	0.2	0.1	0.2	0.1	0.0	-0.1
Crack[c]	NA	0.0	0.1	0.0	0.0	0.0
Other Cocaine[j]	NA	0.1	0.1	0.0	0.0	0.0
MDMA ("Ecstasy")[i]	NA	NA	NA	0.0	0.0	0.0
Heroin	0.0	0.0	0.0	0.0	0.0	0.0
Other Opiates[a]	0.0	0.0	0.0	0.0	0.0	0.0
Stimulants, Adjusted[a,d]	0.2	0.2	0.1	0.1	0.1	0.0
Crystal Methamphetamine ("Ice")[i]	NA	NA	NA	NA	0.0	NA
Sedatives[a]	0.0	0.0	0.1	0.0	NA	NA
Barbiturates[a]	0.0	0.0	0.1	0.0	0.0	0.0
Methaqualone[a]	0.0	0.0	0.0	0.0	NA	NA
Tranquilizers[a]	0.0	0.0	0.0	0.0	0.0	0.0
Alcohol						
Daily	6.1	6.6	6.1	5.5	4.7	-0.8s
5+ drinks in a row in last 2 weeks	36.1	36.2	35.2	34.8	34.3	-0.5
Cigarettes						
Daily	25.2	24.8	22.7	22.4	21.3	-1.1
Half-pack or more per day	20.2	19.8	17.7	17.3	16.7	-0.6
Steroids[f]	NA	NA	NA	0.0	0.0	0.0

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms in 1986-89, and five of the six questionnaire forms in 1990. Total N in 1990 is approximately 5500.

[c] This drug was asked about in two of the five questionnaire forms in 1987-89, and in all six questionnaire forms in 1990.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[e] Adjusted for underreporting of amyl and butyl nitrites. See text.

[f] This drug was asked about in one questionnaire form. Total N in 1990 is approximately 1400.

[g] Adjusted for underreporting of PCP. See text.

[h] Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent classes is due to rounding.

[i] This drug was asked about in two questionnaire forms. Total N in 1990 is approximately 2700.

[j] This drug was asked about in one of the five questionnaire forms in 1987-89, and in four of the six questionnaire forms in 1990. Total N in 1990 is approximately 4200.

TABLE 41

Trends in Annual and Thirty-Day Prevalence of An Illicit Drug Use Index

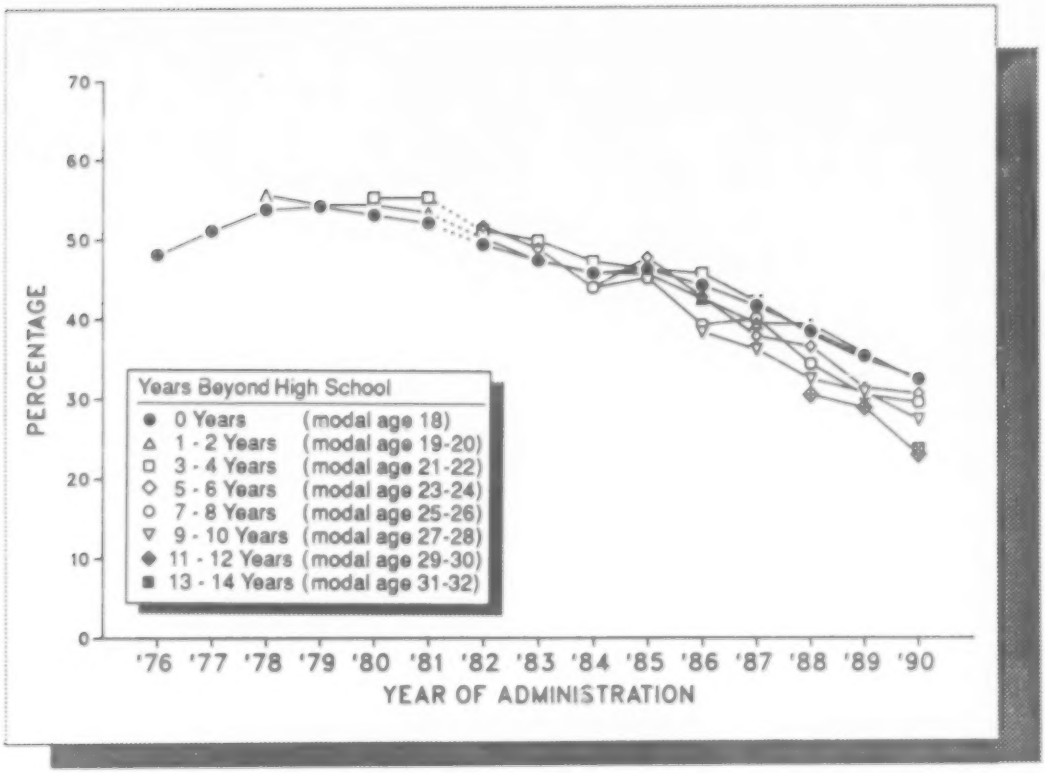
Among Respondents of Modal Age 19-28
by Sex

	1986	1987	1988	1989	1990	'89 – '90 change
	Percent reporting use in last twelve months					
Any Illicit Drug	41.9	39.3	36.3	32.8	30.7	−2.1ss
Males	45.3	42.6	39.5	35.7	33.6	−2.1
Females	39.0	36.5	33.6	30.5	28.3	−2.2s
Any Illicit Drug Other than Marijuana	27.0	23.9	21.3	18.3	16.7	−1.6s
Males	30.4	26.5	23.8	21.0	19.1	−1.9
Females	24.0	21.6	19.4	16.2	14.7	−1.5
	Percent reporting use in last thirty days					
Any Illicit Drug	25.8	23.4	20.5	17.7	15.9	−1.8ss
Males	29.9	27.1	23.7	21.1	18.8	−2.3s
Females	22.2	20.2	17.8	15.0	13.5	−1.5
Any Illicit Drug Other than Marijuana	13.0	10.7	9.5	7.5	6.0	−1.5sss
Males	15.2	12.3	10.6	9.1	6.8	−2.3ss
Females	11.0	9.4	8.7	6.2	5.3	−0.9
	Approx. Wtd. N					
All Respondents	(6900)	(6800)	(6700)	(6600)	(6700)	
Males	(3200)	(3100)	(3000)	(2900)	(3000)	
Females	(3700)	(3800)	(3700)	(3700)	(3700)	

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.

FIGURE 50

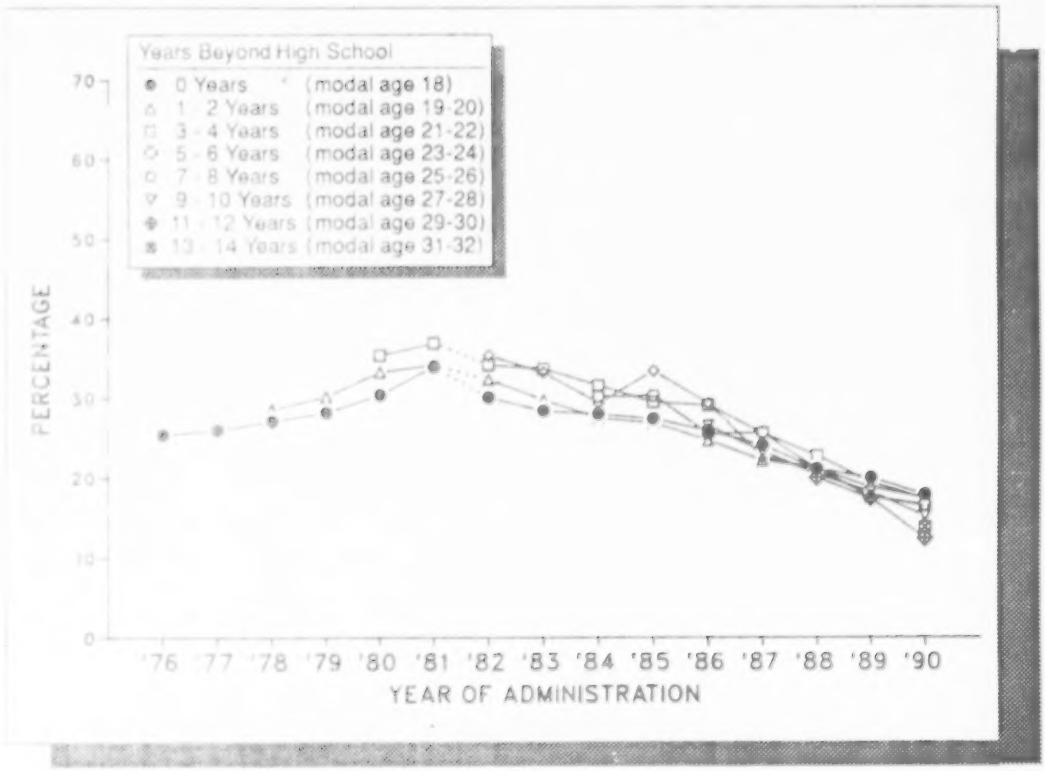
Any Illicit Drug: Trends in Annual Prevalence Among Young Adults
by Age Group


PERCENTAGE
70
60
50
40
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION
Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)

NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.

FIGURE 51

Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among Young Adults
By Age Group


Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
70
60
50
40
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.

FIGURE 52a

Marijuana: Trends in Annual Prevalence Among Young Adults
by Age Group

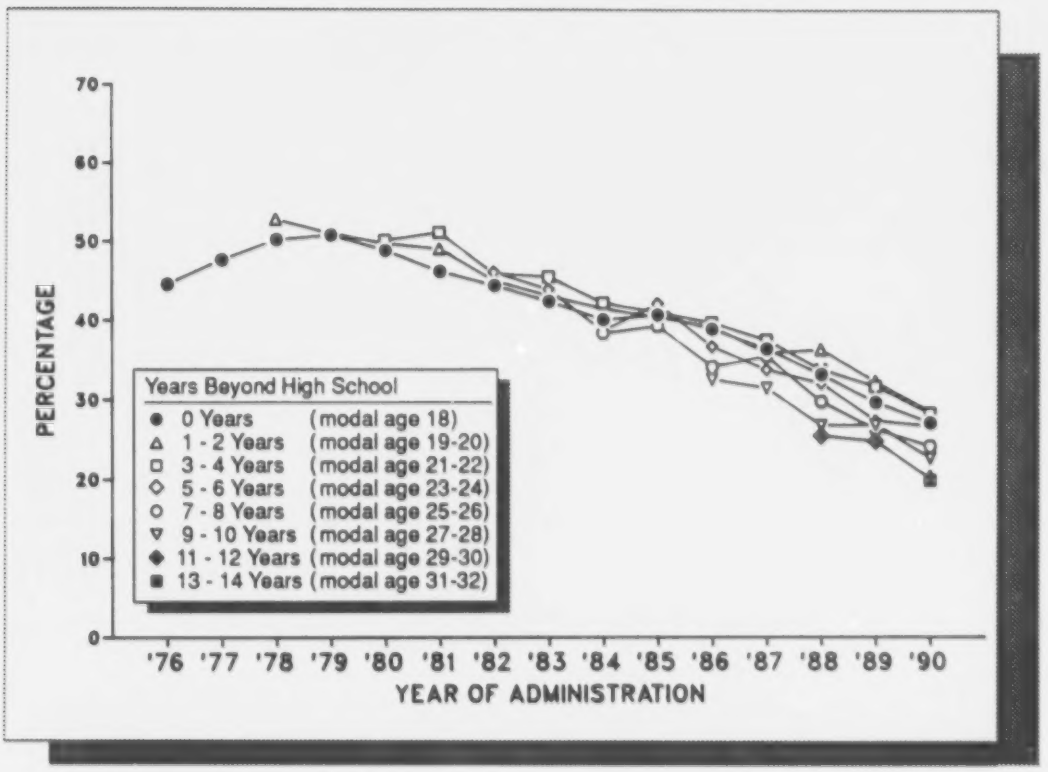
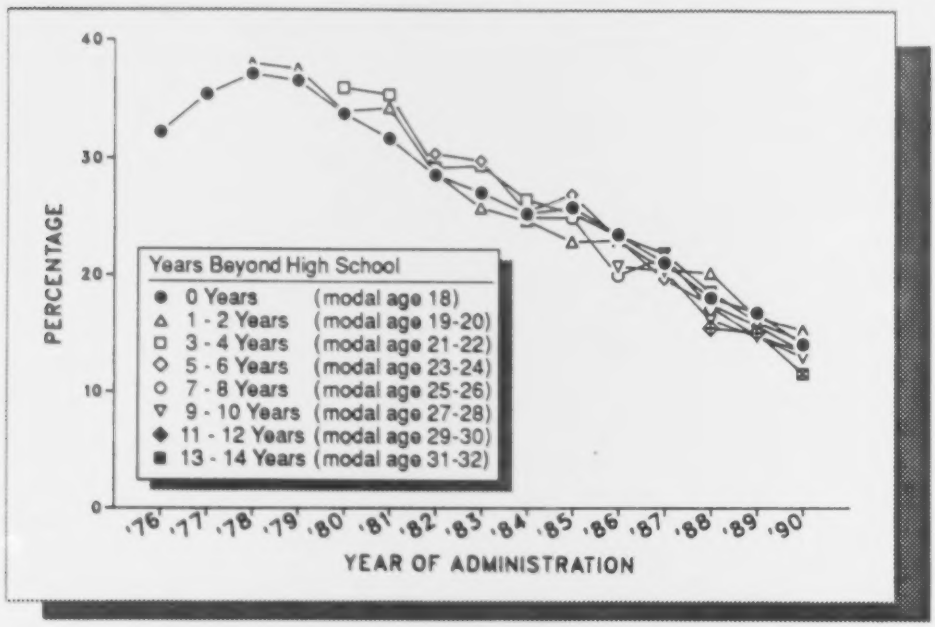

PERCENTAGE
70
60
50
40
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION
Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)

FIGURE 52b

Marijuana: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group


40
30
20
10
0
PERCENTAGE
Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

Marijuana: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults

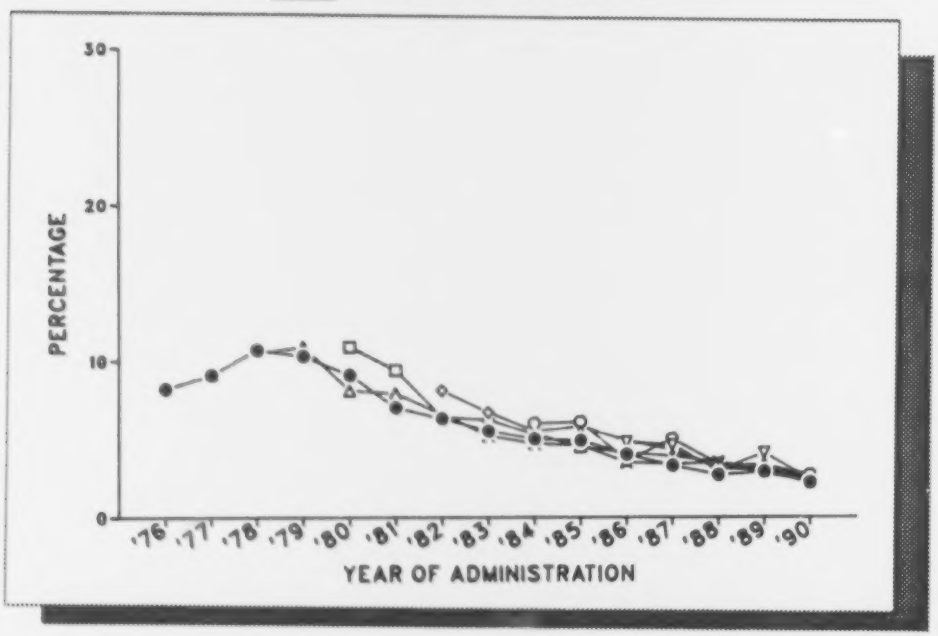
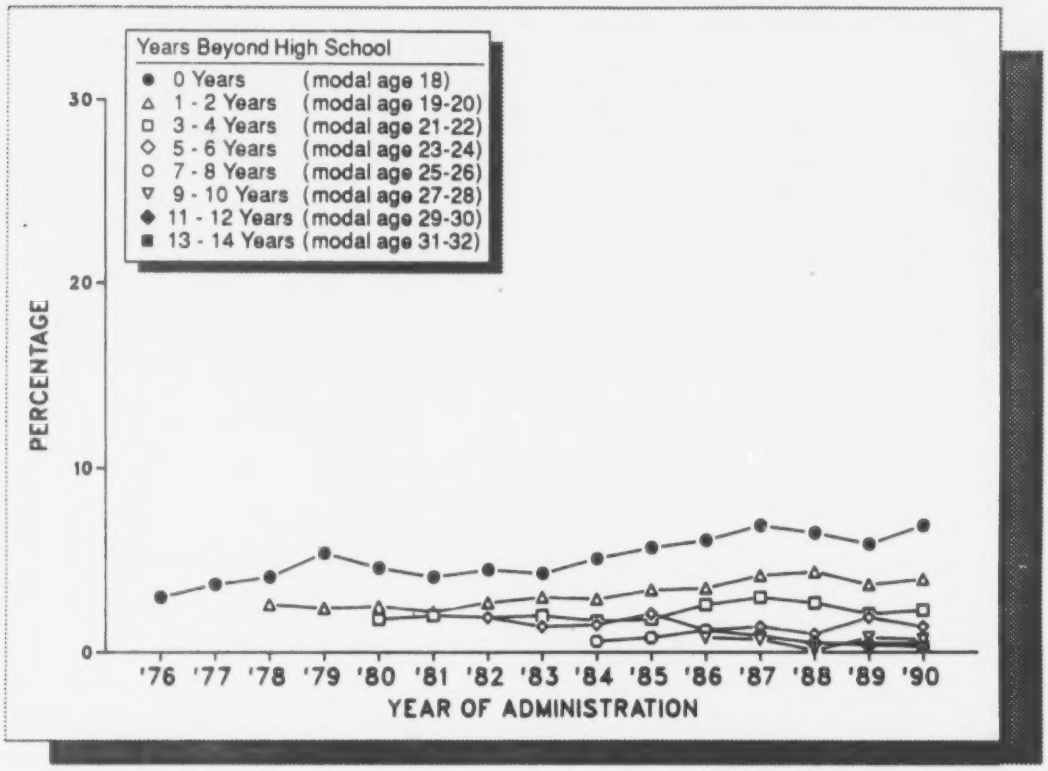


FIGURE 53

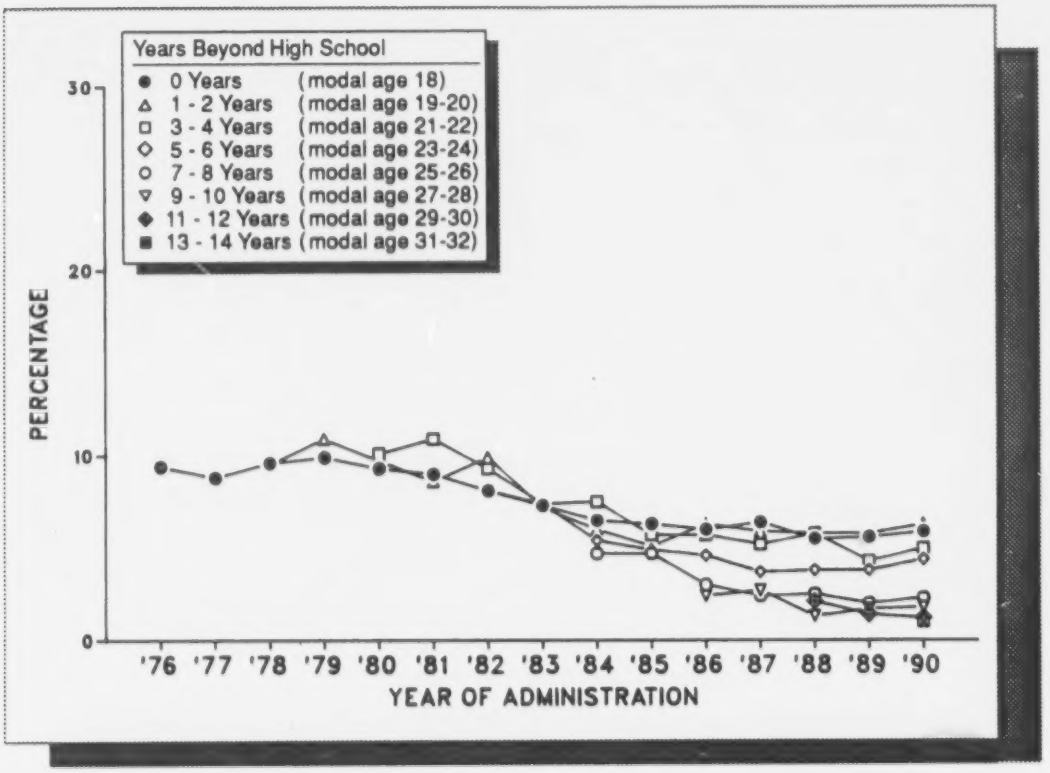
Inhalants*: Trends in Annual Prevalence Among Young Adults
by Age Group


Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

*Unadjusted for the possible underreporting of amyl and butyl nitrites. Chapter 5, Volume I, shows that such an adjustment would flatten the trend line for seniors considerably, because the line was adjusted up more in the earlier years, when nitrite use was more prevalent.

FIGURE 54

Hallucinogens*: Trends in Annual Prevalence Among Young Adults
by Age Group


Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

*Unadjusted for the possible underreporting of PCP.

FIGURE 55

LSD: Trends in Annual Prevalence Among Young Adults
by Age Group

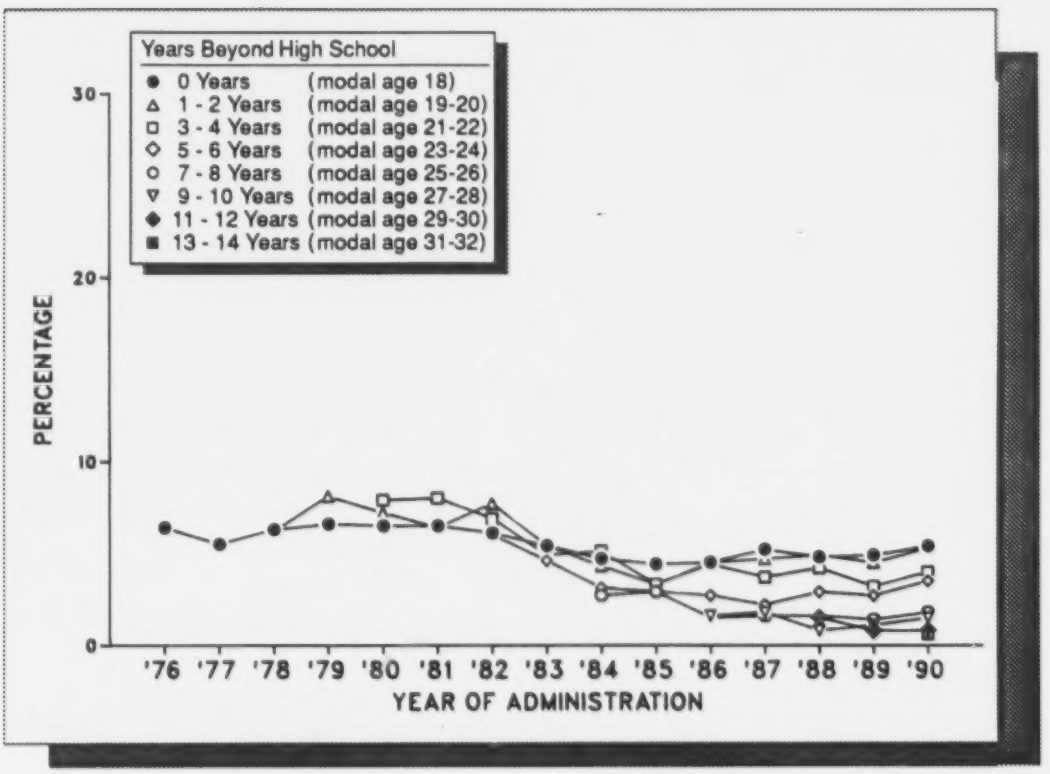

Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

FIGURE 56

Hallucinogens Other than LSD: Trends in Annual Prevalence Among Young Adults
by Age Group

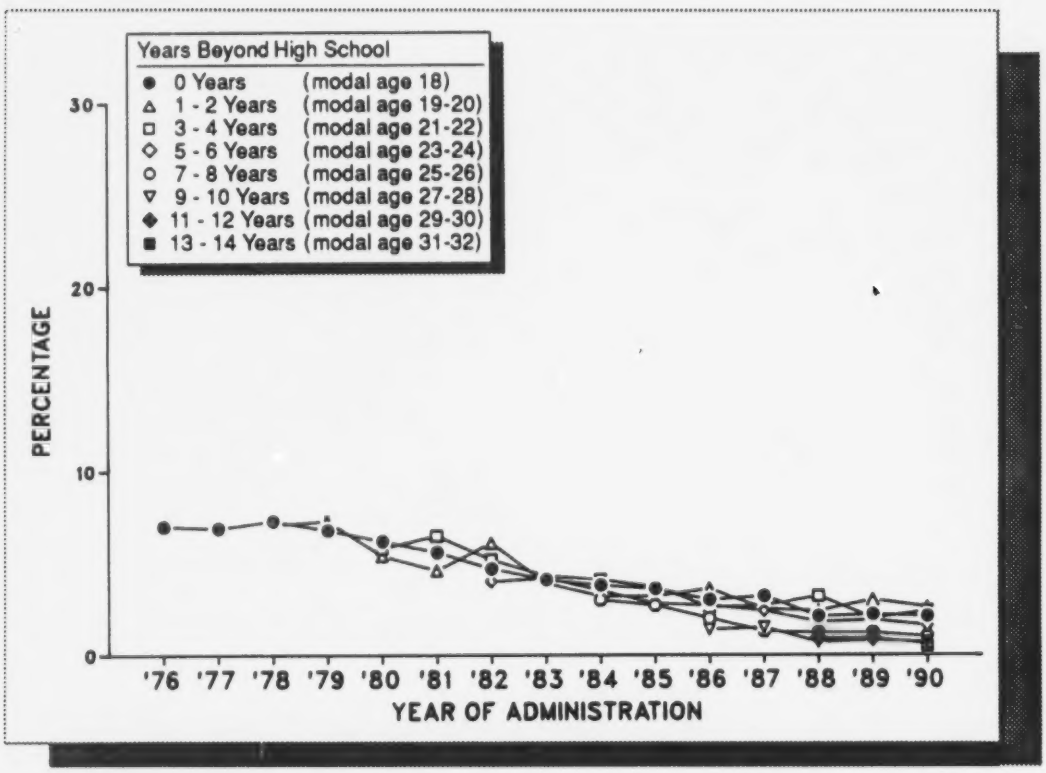

Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

FIGURE 57

Cocaine: Trends in Annual Prevalence Among Young Adults
by Age Group

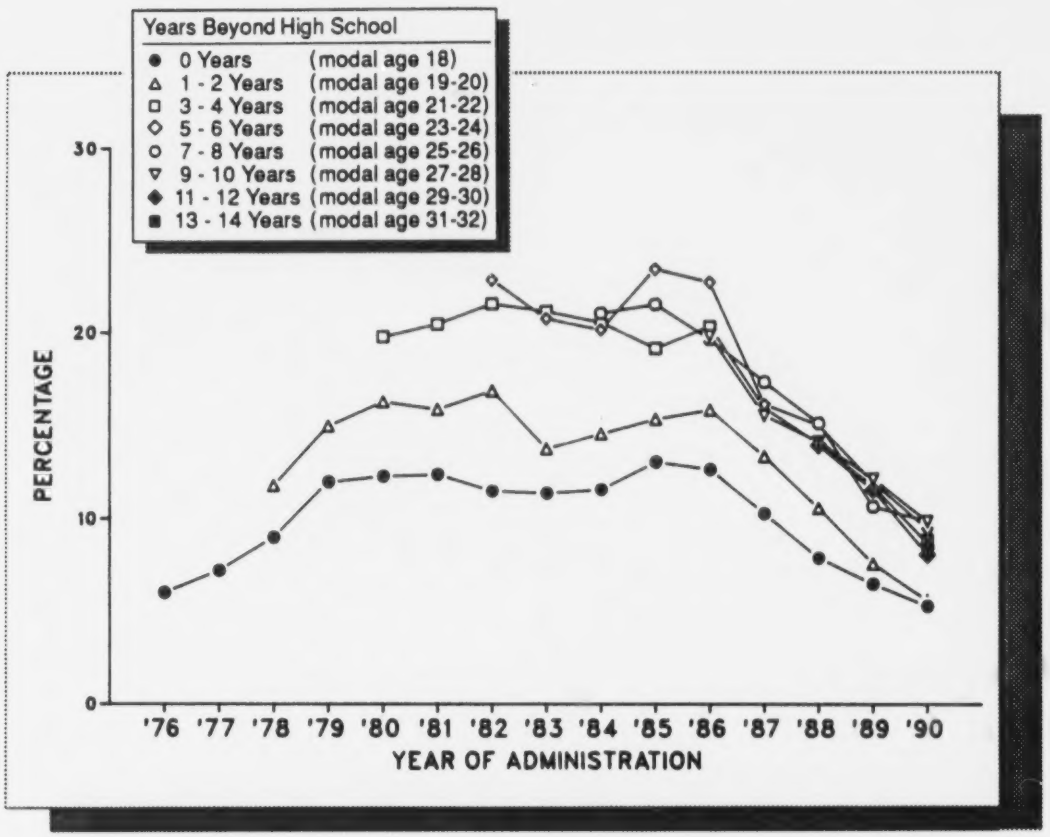

Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

FIGURE 58

Crack: Trends in Annual Prevalence Among Young Adults
by Age Group

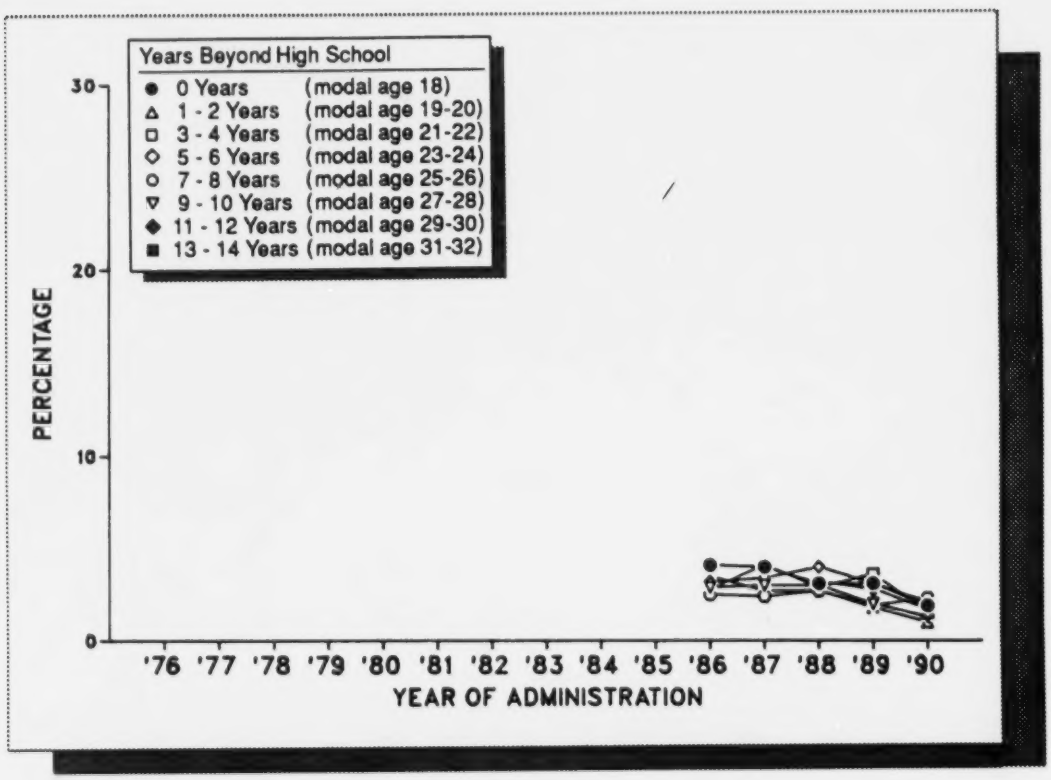

Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

FIGURE 59

Other Opiates: Trends in Annual Prevalence Among Young Adults
by Age Group

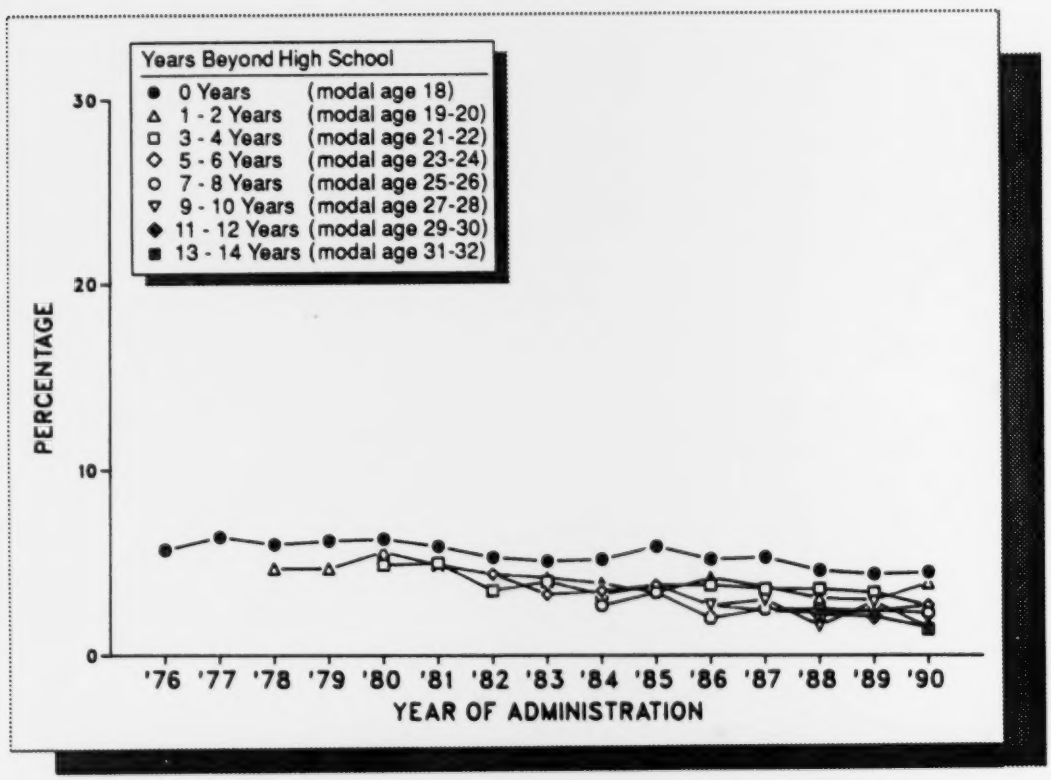
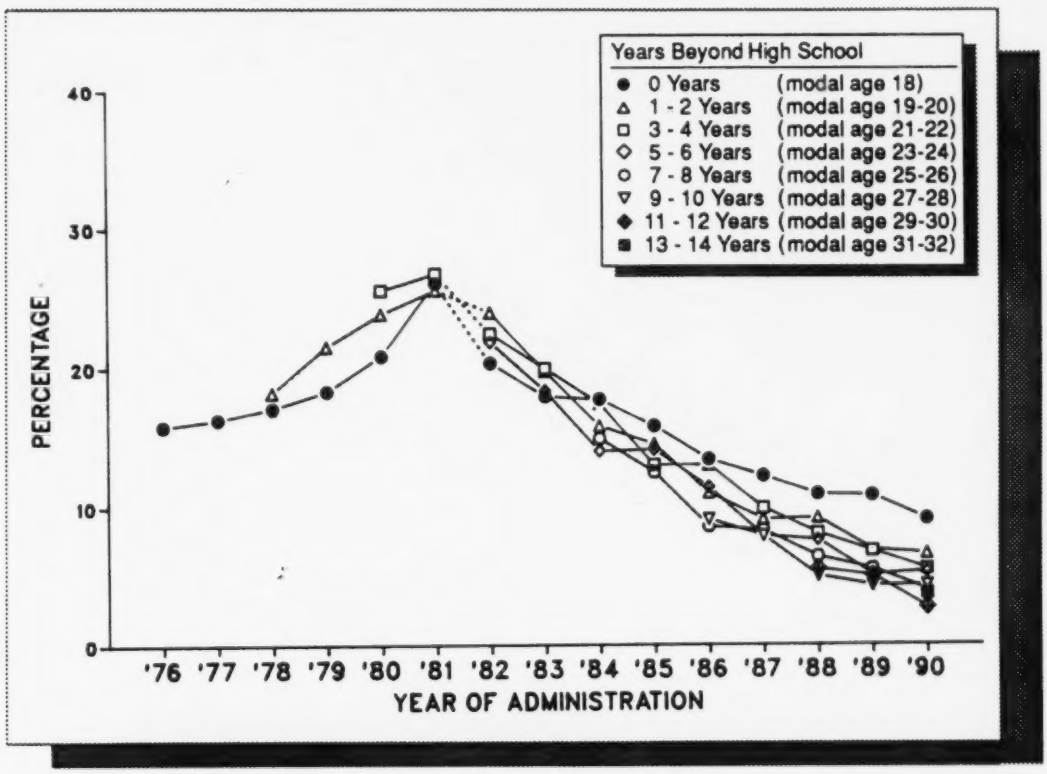

Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

FIGURE 60

Stimulants: Trends in Annual Prevalence Among Young Adults
by Age Group


Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
40
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.

FIGURE 61

Barbiturates: Trends in Annual Prevalence Among Young Adults
by Age Group

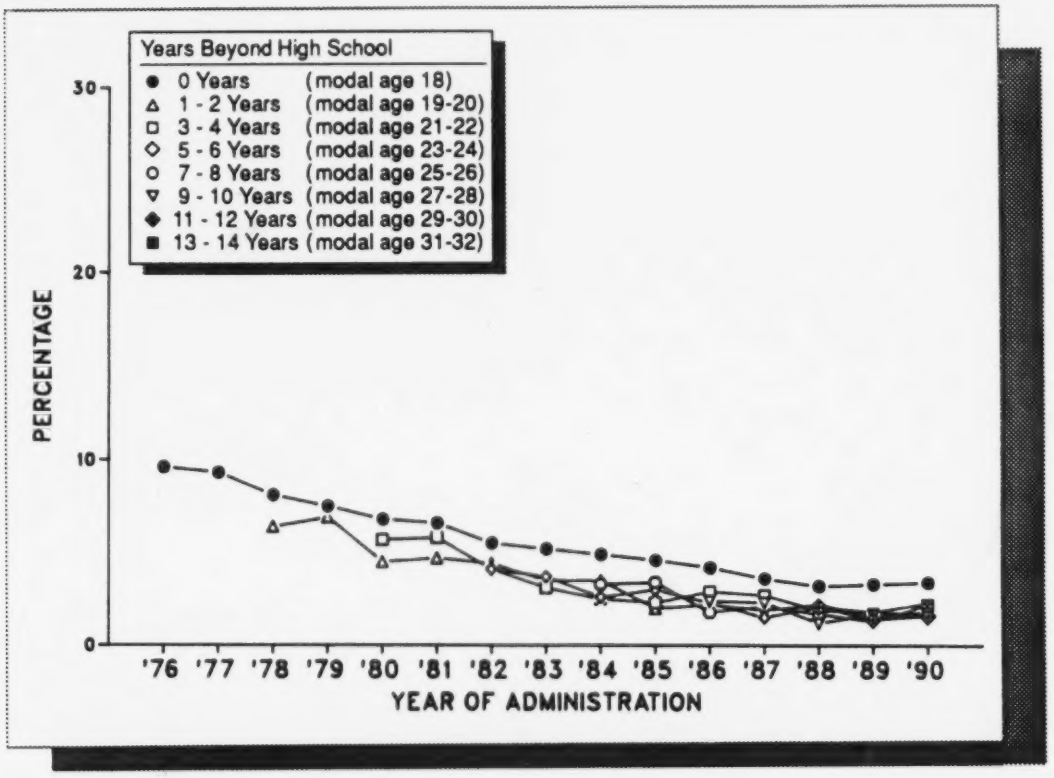

Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

FIGURE 62

Tranquilizers; Trends in Annual Prevalence Among Young Adults
by Age Group

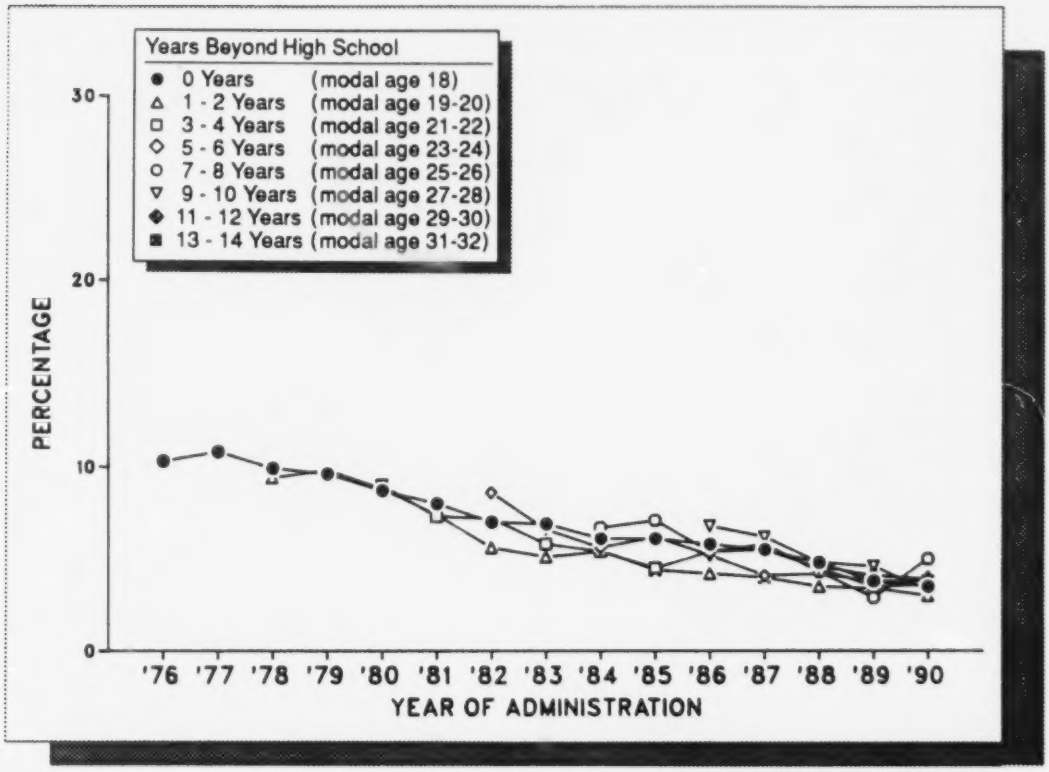

Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

FIGURE 63a

Alcohol: Trends in Annual Prevalence Among Young Adults
by Age Group

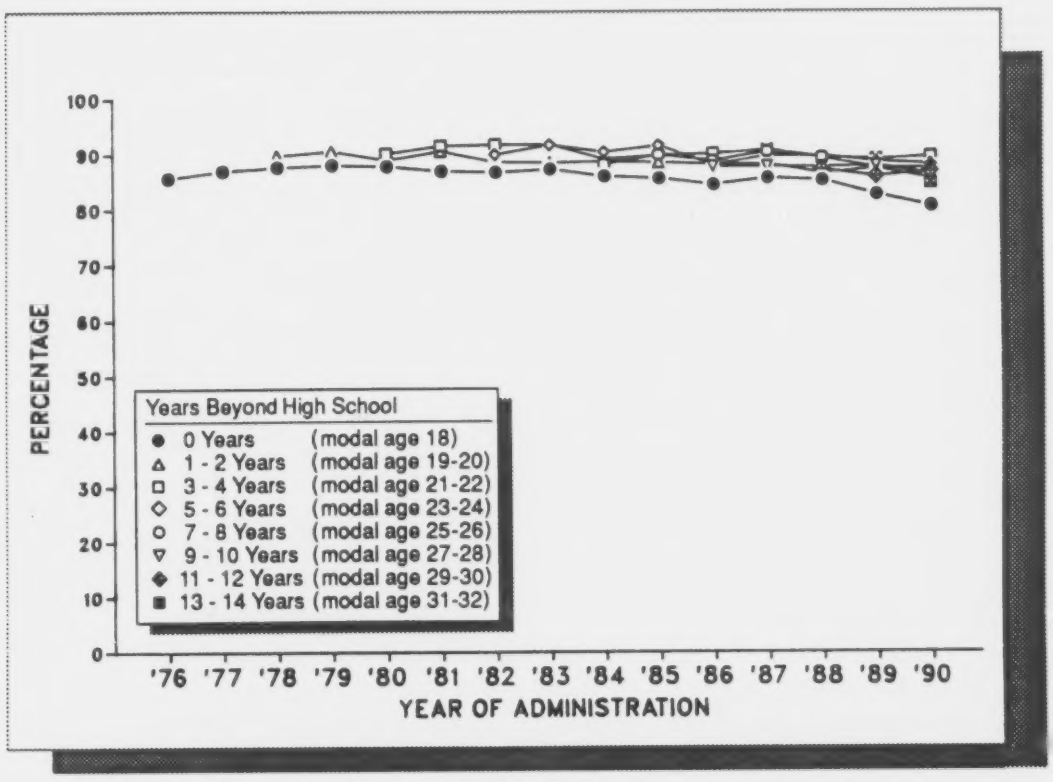
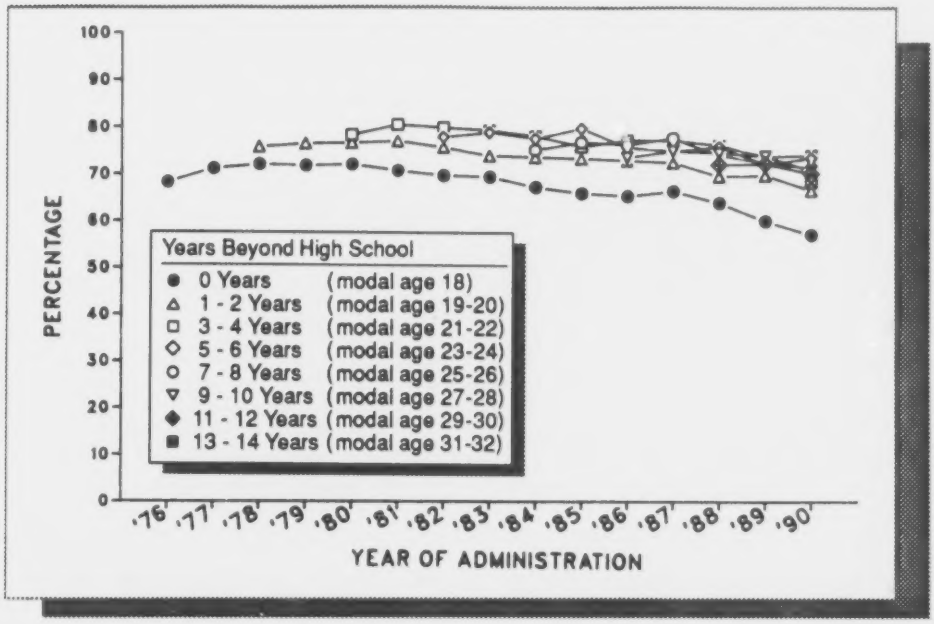


FIGURE 63b

Alcohol: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group



Alcohol: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults

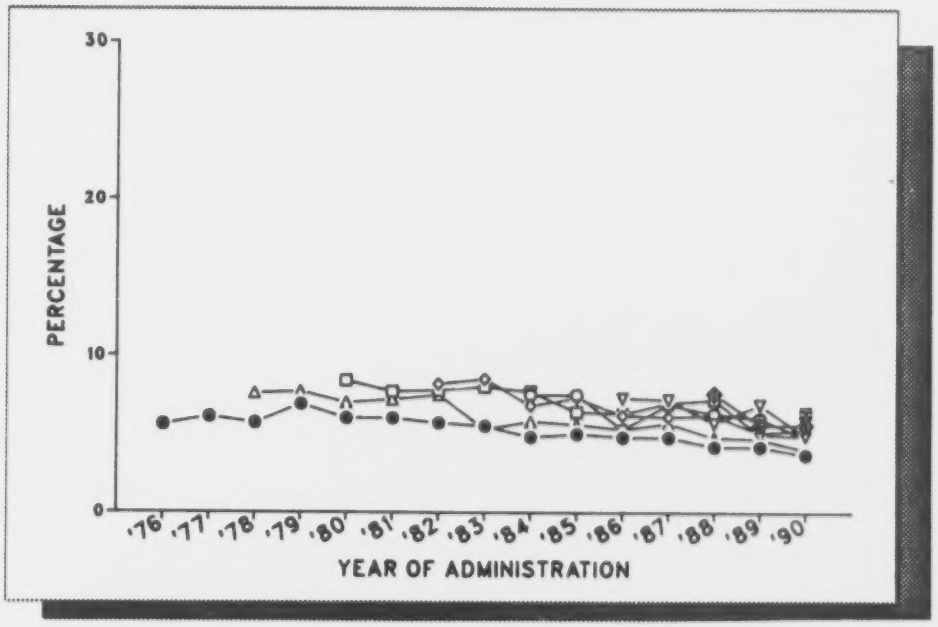


FIGURE 63c

Alcohol: Trends in Two-Week Prevalence of Five or More Drinks in a Row Among Young Adults
by Age Group

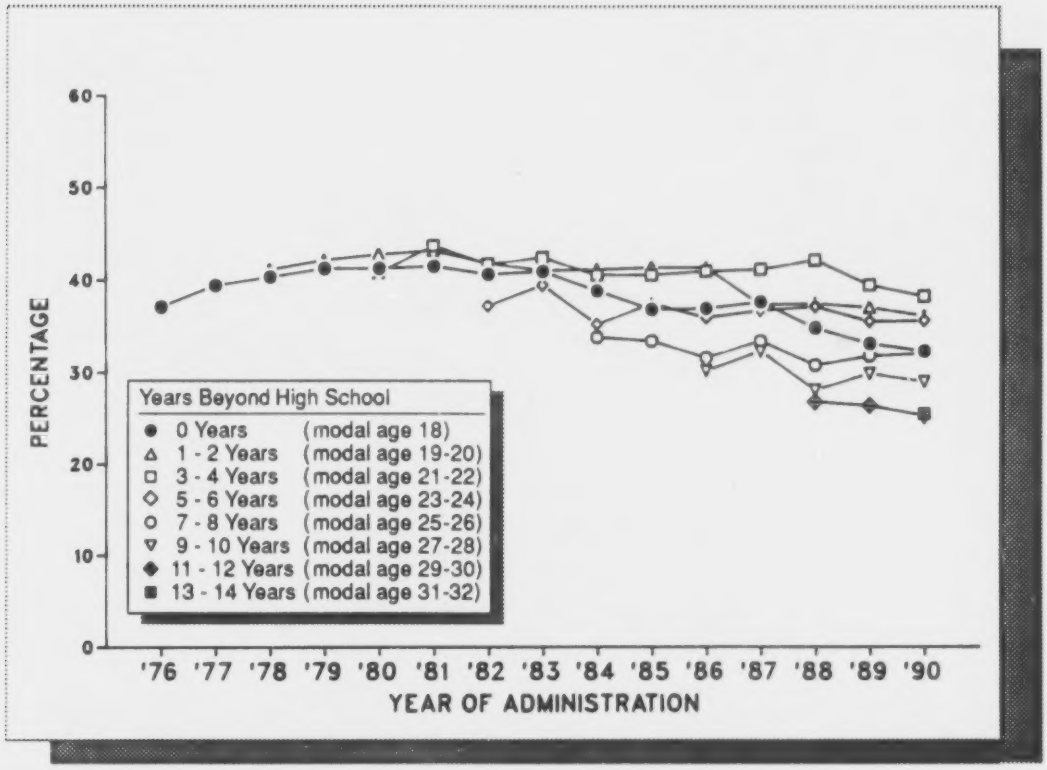
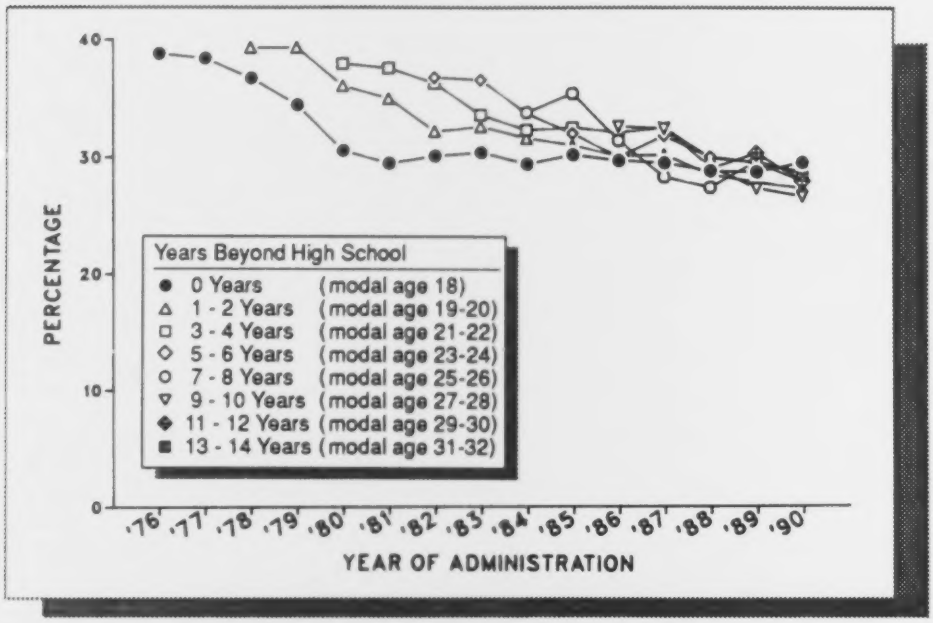

PERCENTAGE
60
50
40
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION
Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)

FIGURE 64a

Cigarettes: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group


PERCENTAGE
40
30
20
10
0
Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

Cigarettes: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults

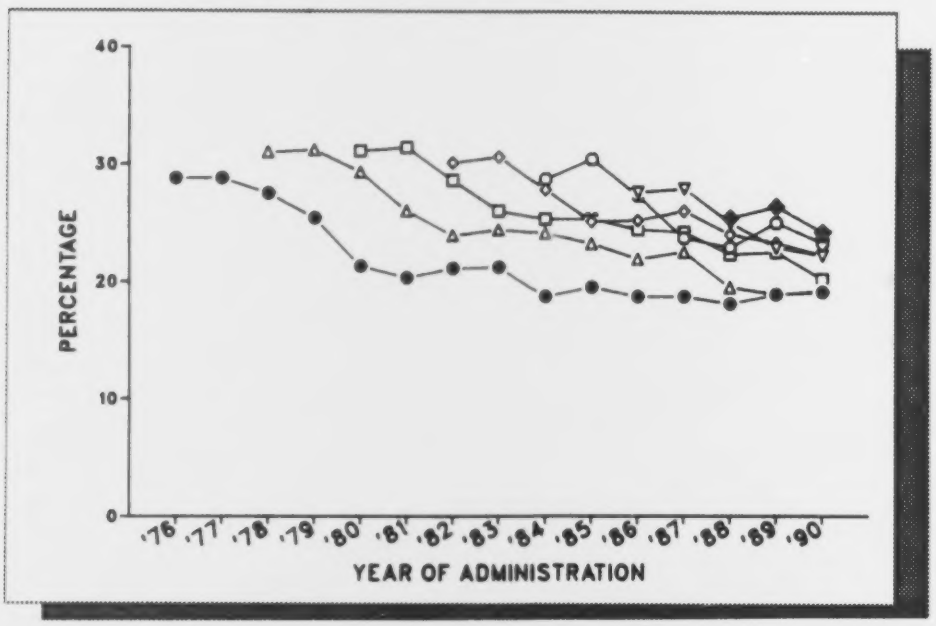
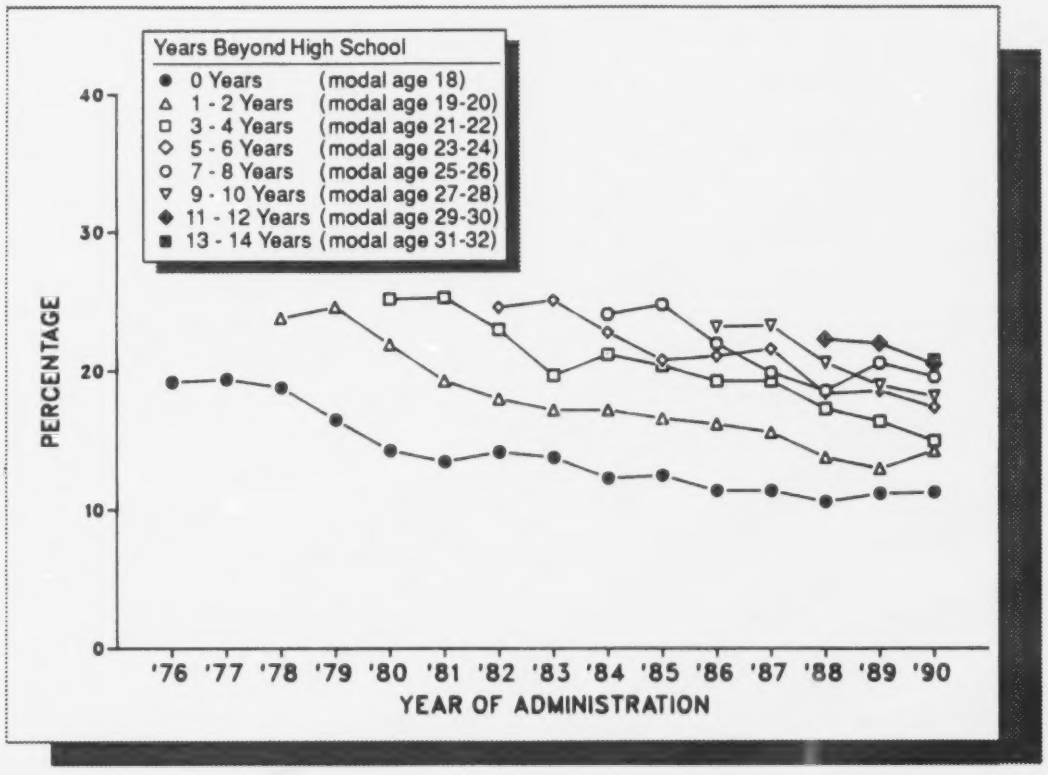


FIGURE 64b

Cigarettes: Trends in Thirty-Day Use of Half-Pack a Day or More Among Young Adults
by Age Group


Years Beyond High School
0 Years (modal age 18)
1 - 2 Years (modal age 19-20)
3 - 4 Years (modal age 21-22)
5 - 6 Years (modal age 23-24)
7 - 8 Years (modal age 25-26)
9 - 10 Years (modal age 27-28)
11 - 12 Years (modal age 29-30)
13 - 14 Years (modal age 31-32)
PERCENTAGE
40
30
20
10
0
'76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90
YEAR OF ADMINISTRATION

Sex Differences in Trends

- In general, sex differences have been narrowing as males have tended to show faster declines than females in use of a number of drugs. For example, since 1980 annual prevalence of use of ***any illicit drug*** among 19 to 22 year olds (data not shown) fell by 25% among males (to 34%) compared to 20% among females (to 32%).

- Among 19 to 22 year olds the downward trend in ***marijuana*** use since 1980 also has been sharper among males than females, thus narrowing the sex difference. Annual prevalence fell by 25% (to 31%) among males between 1980 and 1990, while it fell by only 19% among females (to 26%). During the same interval ***daily marijuana use*** for this age group fell from 13% to 4% among males vs. from 6% to 1% among females—again narrowing the sex difference.

- Similarly for ***LSD***, the 5.7% male-female difference in 1980 for 19 to 22 year olds (10.5% vs. 4.8% annual prevalence) narrowed to 3.3% by 1989 (5.7% vs. 2.4%) and a similar thing has happened to the use of ***other hallucinogens*** taken as a class. However, in 1990 an important increase in LSD use among males widened the difference again.

- Since 1986 annual ***cocaine*** prevalence dropped more among males than females, particularly in the 19 to 22 year age band, where the annual prevalence for males declined by 12.0% (to 8.9%) vs. 10.1% among females (to 5.6%); there was a significant and equivalent drop for both males and females in 1990. In the 23 to 26 year old age band there was also a sex difference in the drop since 1986: down 13.0% (to 12.9%) among males and 10.4% (to 6.9%) among females. Use among males in the 27-30 year old group also appears to be dropping faster (down 6.8% vs. 3.4% for females), although data for these respondents are available only since 1988.

- As ***barbiturate*** use has declined since 1980, sex differences have been nearly eliminated among both the 19 to 22 year olds (since 1984, at least) and among the two older age bands: annual prevalence stands between 1% and 3% for both sexes and all three age groups.

- The annual prevalence figures for ***heroin*** appear to have dropped among males in the 19 to 22 year old category since 1980 (from 0.6% to 0.2% in 1990). Rates for females remained very low at 0.1% to 0.3%.

- Both sexes have shown some decline in recent years in the use of ***opiates other than heroin***, with some narrowing of sex differences, which are now very small.

- Since 1981, rates of ***stimulant*** use have been similar for males and females, and have shown substantial downward trends.

- Both sexes also have reported similar rates of ***tranquilizer*** use since 1980. In recent years, both sexes in all three age groups have shown a gradual decline.

- ***Inhalant*** use has remained constant for both sexes in recent years. Recall that use is considerably lower among the older age bands than among 19 to 22 year olds.

- For ***alcohol***, 30-day prevalence rates have shown some decline since 1981 (of 8% to 9%) for both sexes in the 19 to 22 year old age group. And among this age group in 1990 there is still a large sex difference for ***daily drinking***: 6.5% for males vs. 2.7% for females; but not as large as it was in 1980 (11.5% vs. 4.2%). ***Occasional heavy drinking*** (five or more drinks in a row at least once in the past two weeks) declined only marginally (and not significantly) for both sexes in 1990, although 19 to 22 year old males have shown some longer term decline in this statistic, from 54% in 1986 to 48% in 1990.

- Sex differences in ***smoking*** have remained small among the 19 to 22 year olds since 1980, with females generally averaging a 3% higher daily prevalence rate than males. Among the 23 to 26 year olds daily rates have been almost identical for the two sexes; the same has been true among 27 to 30 year olds since 1988 when the data were first available.

Regional Differences in Trends

- The follow-up respondent's state of residence was first determined in the 1987 survey, so trend data by region exist only for the interval since then.

- In general, the changes which have occurred since 1987 have been pretty consistent across regions, particularly in terms of the direction of the change—for the most part downward. (These changes have been examined for all 19 to 28 year olds combined to increase the reliability of the estimates.)

- There have been substantial drops in all four regions since 1987 for ***any illicit drug***, ***any illicit other than marijuana***, ***marijuana***, ***cocaine***, and ***stimulants***. ***Tranquilizer*** use also dropped in all four regions, but from relatively low levels to begin with.

- ***Cocaine*** continues to show a sharp decline in use in all regions; however, the proportional and absolute declines were greatest in the two regions which had attained the highest levels of use by the

mid-80's—the West and the Northeast. This replicates the finding for seniors, and results in less regional variability in 1990 than in 1986.

- All four regions also have shown an appreciable drop in ***crack*** use since 1987. As was true for cocaine generally, the two regions having the highest rates (the West and the Northeast) have had large absolute and proportional declines, as did the North Central region, resulting in less regional variability in this form of drug use than was the case earlier. Among 19 to 28 year olds the West and the Northeast still have the highest annual prevalence rates (2.1% and 1.8%, respectively), but these are not much different from those for the South and North Central (1.4% and 1.3%, respectively).

- Rates of ***inhalant*** use have remained stable and quite low in all four regions.

- Usage data for ***MDMA ("ecstasy")*** have only been gathered for two years, but they consistently show use to be higher in the West and the South (annual prevalence rates of 2.5% and 1.9%, respectively, in 1990) than in the Northeast or North Central (1.0% and 0.7%, respectively).

- All four regions also have shown fairly stable rates of ***LSD*** use since 1987, with the South remaining slightly lower than the other regions.

- There have been modest declines in ***alcohol*** use in all four regions since 1987 in terms of current drinking and daily drinking. ***Occasions of heavy drinking*** have fallen a few percent in all regions except the West.

- Current ***daily cigarette smoking*** dropped between 2% and 4% in all regions since 1987 among 19 to 28 year olds.

Trend Differences Related to Population Density

- In general, the proportion of young adults using ***any illicit drug*** has been declining in recent years in communities of all sizes. (Recall that five levels of population density are distinguished.) Among 19 to 22 year olds this decline began in 1982 and continues in 1990. The differences have narrowed slightly and about the only difference remaining is that the farm/country stratum has lower use than all of the other strata. The use of ***any illicit drug other than marijuana*** tells a very similar story. While the very large cities tend to have the highest rates on both indexes, they are only slightly higher than the other urban areas.

- ***Marijuana*** use began declining in 1981 or 1982 among the 19 to 22 year olds in all community size categories, and it continued to decline in 1990. Again, the differences narrowed slightly, so that no important differences remain except that the farm/country stratum is lower than all others.

- ***LSD*** use among the 19 to 22 year olds has declined appreciably since 1980 in communities of all sizes. There has been little or no decline among the 23 to 26 year olds since 1984, the earliest point recorded, but their annual prevalence has been consistently lower than in the younger age group. In 1990, there was a statistically significant increase in annual prevalence (of 0.6%) among the 19 to 28 year olds combined, and it appears to be concentrated in large and very large cities. The use of ***other hallucinogens*** taken as a class has fallen in communities of all sizes in both age groups.

- The important and continuing drop in ***cocaine*** use since 1986 occurred in all community-size strata for 19–22 year olds and for 23–26 year olds. For both age groups, 1990 annual prevalence levels in each size stratum are only half, or lower, what they were in 1986. There have been large declines among the 27 to 30 year olds since 1988, as well, in all community sizes.

  Because the declines have been greatest in the large cities, the differences among strata have narrowed, as with seniors; but cocaine use still is positively correlated with community size.

- ***Crack*** use among all age groups peaked in 1987 or 1988 and has fallen in all strata except farm/country since. In the farm/country stratum, use may have peaked a little later, but generally has declined from peak levels there, as well.

- Since 1981 there have been large drops in ***stimulant*** use among 19 to 22 year olds in communities of all sizes; since 1984 (the first time point available) among the 23 to 26 year olds; and since 1988 (first time point available) among the 27 to 30 year olds. There has been no systematic association between stimulant use and community size during these time intervals and this remains true.

- ***Methaqualone*** use, which in 1981 was rather strongly associated (positively) with population density, had dropped to annual prevalence rates of 0.8% or below in all size strata for all three age bands by 1989. The use of ***barbiturates*** has also fallen to very low rates (3.1%, or less, annual prevalence) in all size strata for all three age bands; unlike methaqualone it has not shown much correlation with urbanicity at least as far back as 1980.

- ***Tranquilizer*** use among young adults has had little or no association with population density over this time interval either. Among the 19 to 22 year olds it showed a decline in all strata from 1980 to about 1985, and some leveling since, to just under 4% annual prev-

alence. Since 1985 some further declines have occurred among the 23 to 26 year olds in the large cities, so that they too, now have an annual rate of between 4% and 5%, as do the smaller communities.

- Annual ***heroin*** prevalence in 1990 stands at 0.3% or less in all strata for all age bands, and has shown little systematic relationship with urbanicity, although in the early eighties it did tend to be more concentrated in cities than in the small-town and farm/country strata among the 19 to 22 year olds.

- Similarly, the annual use of ***opiates other than heroin*** had some positive association with degree of population density in the early eighties; however, it has shown rather little association since then, due to a greater decline in use in the variously sized city strata. For each of the various strata annual prevalence stands at between 3% and 4% among the 19 to 22 year olds, and from 1% to 4% among the two older age bands.

- While the absolute levels of ***inhalant*** use still remain low, between 1984 and 1987 there was a gradual increase among 19 to 22 year olds in all strata (except the very large cities, where it started out highest). There has been no systematic association with population density since; across all strata annual prevalence rates in 1990 are between 2.3% and 3.9%. Among respondents in the next older 23 to 26 year old age band, rates have been consistently low in all strata since 1984 (ranging from 0.0% to 1.4% in 1990); rates are lower still for the oldest, 27 to 30 year old age band (0.0% to 1.2% in 1990).

- In the two years for which data on ***MDMA ("ecstasy")*** have been available, use has been positively correlated with community size. In 1990, very large cities showed an annual prevalence rate of 2.8%, whereas the farm/country stratum has only 0.6% and the small town 1.0%.

- In the six years between 1984 and 1990, alcohol use declined modestly in all community-size strata for both the 19–22 and the 23–26 age groups, with only very minor exceptions. The association between community size and alcohol use remains in 1990 a very slightly positive one (or no association at all) for 30-day prevalence, daily prevalence, and occasions of heavy drinking among both age groups.

Chapter 16

ATTITUDES AND BELIEFS ABOUT DRUGS AMONG YOUNG ADULTS

We have observed in the high school senior data some substantial changes in attitudes and beliefs about the use of drugs, in particular the perceived risk of harm associated with marijuana and cocaine, and personal disapproval of use of marijuana and cocaine. Further, the importance of these shifts in attitudes and beliefs in explaining changes in actual drug using behavior has been demonstrated in earlier volumes in this series and elsewhere.[12] The question remains, however, whether similar changes are occurring among other age groups. In this chapter we review trends since 1980 in the same attitudes and beliefs among young adults.

PERCEIVED HARMFULNESS OF DRUGS

Table 42 provides trends in the risks perceived to be associated with differing usage levels of the various licit and illicit drugs. These questions are contained in one questionnaire form only, which limits the numbers of follow-up cases rather severely; accordingly, we use four-year age bands for descriptive purposes in order to increase the available sample size (to about 500–600 weighted cases per cell) and thus to improve the reliability of the estimates. Because of the nature of the design, trend data are available for a longer period for 19 to 22 year olds (since 1980) than for 23 to 26 year olds (since 1984), or for 27–30 year olds (since 1988). Comparison data for seniors are also contained in this table from 1989 onward.

Beliefs in 1990 About Harmfulness Among Young Adults

- As Table 42 illustrates, there are considerable differences in the risks young adults associate with the various drugs, as was true among seniors. In general, the results closely parallel those observed among seniors. (Comparisons can be made with the earlier Table 18 in Volume I.)

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[12]Bachman, J.G., Johnston, L.D., O'Malley, P.M., & Humphrey, R.H. (1988). Explaining the recent decline in marijuana use: Differentiating the effects of perceived risks, disapproval, and general lifestyle factors. *Journal of Health and Social Behavior, 29*, 92–112; Bachman, J.G., Johnston, L.D., & O'Malley, P.M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior, 31*, 173–184. Johnston, L.D. (1981) Frequent marijuana use: Correlates, possible effects, and reasons for using and quitting. In R. deSilva, R. Dupont, and G. Russell (Eds.), *Treating the Marijuana Dependent Person* (pp. 8–14). New York: The American Council on Marijuana; Johnston, L.D. (1985). The etiology and prevention of substance use: What can we learn from recent historical changes? In C.L. Jones and R.J. Battjes (Eds.), *Etiology of Drug Abuse: Implications for Prevention* (NIDA Research Monograph No. 56, pp. 155–177). (DHHS Publication No. (ADM) 85–1335). Washington, DC: U.S. Government Printing Office.

- ***Marijuana*** is seen as the least risky of the illicitly used drugs, although there are sharp distinctions made between different levels of use: in 1990 experimental use is perceived as being of "great risk" by 17–18% of high school graduates (age 19–30), while regular use is perceived to be that risky by 69–73% of them.

  It is interesting to note that fewer of the older age groups see great risk, particularly with occasional and regular use of marijuana, than the younger age bands. Indeed, there has been a quite regular negative ordinal relationship between age and perceived risk for some years. This could reflect an age effect; but we think it is more likely a cohort effect, with the younger cohorts coming to perceive marijuana as more dangerous as they were growing up than did earlier cohorts, and carrying these beliefs into adulthood.

- Use of any of the other illicit drugs is seen as distinctly more risky than marijuana. Experimental use of ***amphetamines*** and ***barbiturates*** is perceived as risky by about 35–39% of young adults age 19–30, and 50–70% think trying ***LSD, cocaine, crack,*** or ***heroin*** is risky. ***MDMA*** falls in between at about 48%.

- Older age groups are more likely to see ***LSD, heroin, amphetamine,*** and ***barbiturate*** use as dangerous, just the opposite of the situation with marijuana. At the end of this chapter we offer a closing note on the implications of this finding for theory and prevention.

- There has not been much of an age-related difference in perceived risk associated with regular use of ***cocaine***, or with experimental use. There is a modest age-related difference in occasional use, however, with the older groups perceiving slightly less risk. This difference is consistent with the somewhat higher prevalence of use among the older groups.

- ***Crystal methamphetamine ("ice")*** was introduced to this question set in 1990 and the results show what may be an important reason for its lack of rapid spread. It is seen by seniors and young adults as a quite dangerous drug, perhaps because of its being likened to crack cocaine use in most media accounts. Both drugs are burned and inhaled; both are stimulants and produce dependence.

- ***MDMA ("ecstasy")*** questions were introduced a year earlier, and have not been asked of seniors. The data show that young adults see it as a fairly dangerous drug with which even to experiment; just under 50% say there is "great risk" involved. This puts it close to LSD in level of perceived risk.

- As with seniors, only a minority of the young adults see ***occasional heavy drinking*** as dangerous (40–44%); however, more than three-fourths feel that way about ***daily heavy drinking***.

- More than 70% of the young adults perceive regular pack-a-day ***cigarette smoking*** as entailing high risk.

Trends in Perceived Harmfulness Among Young Adults

- Nearly all of the important trends observed among seniors in perceived harmfulness can also be seen among young adults. (See Table 42.) In particular, the risks associated with all levels of ***cocaine*** use rose sharply after 1986 (particularly for experimental and occasional use). In 1990 the increase continued among the younger age groups but not the older ones, though this could be a sampling artifact.

- The long-term increase in the perceived risk of ***regular marijuana use*** documented among seniors also occurred among young adults although there was rather little change in 1990 for any of them. The proportion of 19 to 22 year olds reporting great risk rose from 44% in 1980 (the first data point available) to 75% in 1989. Furthermore, the gap between this age group and the 23 to 26 year olds has narrowed by more than half, so that in 1990 the older age band is only 2% less likely to believe regular use carries great risk; the 27–30 year olds are 2% less likely than the 23–26 year olds. Among seniors the shift over the same interval was from 50% to 78%. (Daily marijuana use dropped appreciably during this time in all of these age groups.)

- Among seniors there had been a downward shift from 1975 to 1986 in the proportion seeing much risk associated with trying ***heroin***, then a sharp upturn in 1987 which has held since. It appears that there was a similar downward shift among young adults (who in general have been more cautious about heroin than high school seniors); this was followed by a definite upturn between 1985 and 1987 in the judged risk of experimental or occasional heroin use, with little further change since then. These trends may reflect respectively, (a) the lesser attention paid to heroin by the media during the late seventies and early eighties than previously, and (b) the subsequent great increase in attention paid to intravenous drug use in the past few years because of its role in the spread of AIDS.

- While trend data are available only since 1987 on the risks perceived to be associated with ***crack***, they show a sharp increase in the 1987–1989 interval. Were data available a year or two earlier, they undoubtedly would have shown that an even larger shift occurred.

TABLE 42

Trends in Perceived Harmfulness of Drugs

Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

Q. *How much do you think people risk harming themselves (physically or in other ways), if they ...*	Age Group	Percentage saying "great risk"[a]										'89 - '90 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
Try marijuana once or twice	*18*	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	19.0	23.6	23.1	−0.5
	19–22	8.3	7.8	9.7	9.7	12.8	11.2	13.0	12.9	16.8	16.9	17.8	+0.9
	23–26					*9.6*	*10.0*	*12.4*	*14.5*	*16.0*	*14.0*	*17.7*	*+3.7*
	27–30									14.6	16.0	17.0	+1.0
Smoke marijuana occasionally	*18*	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9	+0.4
	19–22	13.9	14.2	16.9	16.7	21.7	20.6	22.4	23.0	28.7	29.1	30.1	+1.0
	23–26					*15.8*	*16.3*	*20.9*	*20.8*	*26.8*	*25.3*	*30.4*	*+5.1*
	27–30									24.2	25.7	28.7	+3.0
Smoke marijuana regularly	*18*	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	77.0	77.5	77.8	+0.3
	19–22	43.9	47.8	52.4	58.4	62.2	66.8	67.6	69.4	72.4	74.9	73.0	−1.9
	23–26					*52.9*	*57.5*	*59.4*	*65.3*	*68.3*	*72.1*	*71.0*	*−1.1*
	27–30									67.5	69.1	69.2	+0.1
Try LSD once or twice	*18*	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	45.7	46.0	44.7	−1.3
	19–22	44.8	44.4	45.0	44.7	46.0	44.3	47.6	49.4	49.2	49.5	49.3	−0.2
	23–26					*48.3*	*46.9*	*47.9*	*51.5*	*53.7*	*50.7*	*52.0*	*+1.3*
	27–30									53.3	55.6	54.6	−1.0
Take LSD regularly	*18*	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	84.2	84.3	84.5	+0.2
	19–22	83.4	85.3	86.2	86.0	84.5	86.4	87.1	85.6	85.4	85.5	85.8	+0.3
	23–26					*89.0*	*86.6*	*88.7*	*90.0*	*89.2*	*89.0*	*88.2*	*−0.8*
	27–30									89.1	91.2	92.0	+0.8
Try PCP once or twice	*18*								55.6	58.8	56.6	55.2	−1.4
	19–22								63.6	63.8	NA	NA	NA
	23–26								*64.8*	*63.2*	*NA*	*NA*	*NA*
	27–30									65.9	NA	NA	NA
Try cocaine once or twice	*18*	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4	+4.5ss
	19–22	31.4	30.4	33.3	28.7	33.1	33.2	35.5	45.9	51.9	51.5	58.1	+6.6s
	23–26					*31.3*	*31.1*	*35.9*	*48.0*	*47.1*	*51.3*	*51.5*	*+0.2*
	27–30									45.3	53.0	51.6	−1.4
Take cocaine occasionally	*18*							54.2	66.8	69.2	71.8	73.9	+2.1
	19–22							53.8	61.3	67.1	72.6	74.6	+2.0
	23–26							*50.9*	*62.6*	*63.2*	*69.9*	*69.9*	*0.0*
	27–30									62.6	66.6	66.6	0.0
Take cocaine regularly	*18*	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	89.2	90.2	91.1	+0.9
	19–22	65.2	69.3	71.5	75.2	75.1	82.9	82.0	88.0	90.3	89.1	93.9	+4.8ss
	23–26					*75.6*	*76.9*	*83.0*	*88.9*	*90.9*	*91.2*	*91.2*	*0.0*
	27–30									88.9	92.0	91.4	−0.6

(Table continued on next page)

TABLE 42 (Cont.)

Trends in Perceived Harmfulness of Drugs
Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30

	Age Group	Percentage saying "great risk"[a]											'89–'90 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
Try crack once or twice	*18*								57.0	62.1	62.9	64.3	+1.4
	19–22								59.4	67.3	68.5	69.4	+0.9
	23–26								*59.1*	*63.5*	*69.8*	*67.3*	*−2.5*
	27–30									66.5	64.9	68.7	+3.8
Take crack occasionally	*18*								70.4	73.2	75.3	80.4	+5.1sss
	19–22								75.0	77.3	81.8	82.3	+0.5
	23–26								*70.3*	*74.0*	*79.9*	*81.1*	*+1.2*
	27–30									76.4	76.7	82.6	+5.9s
Take crack regularly	*18*								84.6	84.8	85.6	91.6	+6.0sss
	19–22								89.6	91.1	94.1	94.9	+0.8
	23–26								*88.0*	*89.2*	*91.5*	*94.2*	*+2.7*
	27–30									89.6	89.5	95.3	+5.8sss
Try MDMA ("ecstasy") once or twice	19–22										45.2	47.1	+1.9
	23–26										49.5	47.2	−2.3
	27–30										44.9	48.7	+3.8
Try heroin once or twice	*18*	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	54.0	53.8	55.4	+1.6
	19–22	57.8	56.8	54.4	52.5	58.7	51.0	55.5	57.9	58.9	59.6	58.3	−1.3
	23–26					*58.2*	*59.2*	*60.8*	*66.6*	*65.4*	*62.3*	*64.1*	*+1.8*
	27–30									66.0	69.7	67.5	−2.2
Take heroin occasionally	*18*	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	73.8	75.5	76.6	+1.1
	19–22	77.5	77.8	73.6	74.5	74.9	73.6	77.2	77.6	77.5	79.8	80.8	+1.0
	23–26					*81.2*	*80.7*	*78.9*	*84.5*	*82.4*	*80.8*	*83.4*	*+2.6*
	27–30									86.0	86.8	85.3	−1.5
Take heroin regularly	*18*	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	88.8	89.5	90.2	+0.7
	19–22	87.2	89.9	87.5	88.6	86.8	90.2	90.7	90.2	89.6	90.8	91.2	+0.4
	23–26					*92.0*	*90.1*	*90.6*	*92.8*	*91.5*	*91.3*	*91.0*	*−0.3*
	27–30									92.7	93.5	93.0	−0.5
Try amphetamines once or twice	*18*	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2	−0.6
	19–22	24.6	24.6	27.8	24.8	26.9	23.9	27.1	27.4	31.7	28.9	35.6	+6.7s
	23–26					*29.6*	*29.4*	*29.4*	*34.1*	*33.2*	*32.5*	*35.3*	*+2.8*
	27–30									35.2	37.5	36.9	−0.6
Take amphetamines regularly	*18*	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2	0.0
	19–22	71.9	69.9	68.3	69.9	68.4	68.5	72.3	72.0	73.9	71.3	74.0	+2.7
	23–26					*75.8*	*77.2*	*75.6*	*78.2*	*77.4*	*76.7*	*77.8*	*+1.1*
	27–30									80.6	82.9	83.3	+0.4
Try crystal meth ("ice")	*18*											63.1	
	19–22											57.8	NA
	23–26											*56.5*	NA
	27–30											59.6	NA

TABLE 42 (Cont.)

Trends in Perceived Harmfulness of Drugs

Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30

	Age Group	Percentage saying "great risk"[a]											'89–'90 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
Try barbiturates once or twice	*18*	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4	+0.2
	19–22	27.6	26.4	30.5	25.4	29.9	25.0	30.7	29.6	32.7	30.5	36.4	+5.9s
	23–26					*32.2*	*29.9*	*30.2*	*35.5*	*35.8*	*32.9*	*37.9*	*+5.0*
	27–30									37.2	38.7	39.0	+0.3
Take barbiturates regularly	*18*	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2	−0.3
	19–22	74.0	73.3	72.7	71.3	71.6	71.7	74.5	73.0	74.0	71.7	75.5	+3.8
	23–26					*77.4*	*77.0*	*74.9*	*79.9*	*79.8*	*76.6*	*80.5*	*+3.9*
	27–30									81.5	83.7	84.0	+0.3
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	*18*	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	6.0	6.0	8.3	+2.3ss
	19–22	3.0	3.4	3.1	2.3	4.7	3.1	5.4	3.5	3.9	5.9	6.1	+0.2
	23–26					*5.5*	*3.0*	*6.5*	*6.6*	*4.2*	*5.1*	*5.7*	*+0.6*
	27–30									5.0	6.3	4.4	−1.9
Take one or two drinks nearly every day	*18*	20.3	21.6	21.6	21.6	23.0	24.4	25.1	26.2	27.3	28.5	31.3	+2.8
	19–22	22.7	22.9	23.2	23.2	25.0	26.3	27.3	26.1	26.5	28.1	30.1	+2.0
	23–26					*27.8*	*27.4*	*26.9*	*30.2*	*29.1*	*27.8*	*31.1*	*+3.3*
	27–30									27.4	31.7	32.2	+0.5
Take four or five drinks nearly every day	*18*	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	68.5	69.8	70.9	+1.1
	19–22	71.2	72.7	73.3	72.7	76.2	74.1	74.0	76.4	72.8	75.7	76.1	+0.4
	23–26					*76.7*	*77.9*	*80.1*	*77.2*	*81.8*	*76.9*	*79.7*	*+2.8*
	27–30									79.3	81.7	84.7	+3.0
Have five or more drinks once or twice each weekend	*18*	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	42.6	44.0	47.1	+3.1
	19–22	34.2	30.1	33.5	36.6	37.9	40.2	34.6	36.7	36.9	42.4	40.6	−1.8
	23–26					*38.4*	*39.7*	*39.1*	*39.8*	*35.8*	*37.7*	*40.2*	*+2.5*
	27–30									41.0	42.3	44.1	+1.8
Smoke one or more packs of cigarettes per day	*18*	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2	+1.0
	19–22	66.5	61.7	64.0	62.1	69.1	71.4	70.4	70.6	71.0	73.4	72.5	−0.9
	23–26					*71.1*	*70.1*	*75.7*	*73.6*	*75.5*	*71.4*	*78.5*	*+7.1ss*
	27–30									72.8	75.2	77.8	+2.6
Approx. Wtd. N =	18	3234	3604	3557	3305	3262	3250	3020	3315	3276	2796	2553	
	19–22	590	585	583	585	579	547	581	570	551	565	552	
	23–26					*540*	*512*	*545*	*531*	*527*	*498*	*511*	
	27–30									513	487	490	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

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- With regard to ***occasional heavy drinking*** it may be recalled that among seniors perceived risk rose from around 1981 to 1985 and then leveled off until 1989 when it again started to rise. A similar pattern is found among 19 to 22 year olds. (The older age band shows a level pattern recently, and data do not exist for enough years to check for an earlier increase in concern.)

- The data available from the young adult samples show rather little change in recent years in the proportions associating great risk with ***regular smoking***. For example, over the six year interval from 1984 to 1990, 19–22 year old respondents increased by only 4% (from 69% to 73%), while the 23–26 year old groups increased by 7% from 71.1% to 78.5%). (High school seniors showed about the same degree of change as the 19–22 year olds, increasing by 4%, from 64 to 68%.)

PERSONAL DISAPPROVAL OF DRUG USE

The questions asked of seniors concerning the extent to which they personally disapprove of various drug-using behaviors are also asked of follow-up respondents (in one of the six questionnaire forms). Trends in the answers of young adults aged 19–22, 23–26, and 27–30 are contained in Table 43. Comparison data for seniors are also provided for 1980 onward: trends since 1975 may be found in Table 19, located in Chapter 8, in Volume I, on high school seniors' attitudes and beliefs about drugs.

Extent of Disapproval by Young Adults in 1990

- In general, the attitudes of young adults related to the various drug-using behaviors, both licit and illicit, are highly similar to those held by seniors. This means that the great majority disapprove of using, or even experimenting with, all of the ***illicit drugs other than marijuana***. For example, regular use of each of the following drugs is disapproved by 97% or more of young adults—***LSD***, ***cocaine***, ***amphetamines***, ***barbiturates***, or ***heroin***. Experimentation with each of these drugs is disapproved by between 84% to 98% of the young adults.

- These attitudes seem to differ little as a function of age, except that experimental use of ***cocaine*** is disapproved by slightly fewer 27 to 30 year olds (86%) than 23 to 26 year olds (88%), 19 to 22 year olds (90%), or seniors (92%). The differences are consistent with age-related differences in actual use.

- Even for ***marijuana***, more than half of young adults now disapprove experimentation, more than two-thirds disapprove occasional use, and roughly 90% disapprove regular use. Once again, there are age-related differences, with a decline in disapproval as one moves from younger to older age groups. Since current marijuana use is about constant across this age band (but active use *during*

high school was higher in the older age groups), these age-related differences in attitudes may reflect a residual effect of cohort differences in attitudes which were formed in high school or earlier.

- Regarding ***alcohol*** use, rates of disapproval for the various patterns of use listed are quite close to those observed among seniors. Seniors are more likely to disapprove of experimentation, though the rate of disapproval is very low in all groups. On the question about ***occasional heavy drinking***, disapproval is about 6% higher among the 27 to 30 year olds (who have a lower prevalence of such behavior) than among the younger age groups, who all have about the same attitudes.

- Disapproval for ***cigarette smoking***, at the rate of a pack per day or more, varies little by age.

Trends in Disapproval by Young Adults

- There have been some important changes among American young adults in the extent to which they find various drugs acceptable, even for use by adults.

- The largest shift has occurred for ***marijuana***; the proportion of 19 to 22 year olds disapproving even experimenting with it rose from 38% to 60% between 1980 and 1990. Data are available for a shorter period of time for the 23 to 26 year old age band; but they also increased in disapproval of experimenting with marijuana, from 41% in 1984 to 58% in 1990.

- Among the 19 to 22 year olds it seems that disapproval of ***regular cocaine use*** has been rising gradually from about 92% in 1980 to 99% in 1990. All three young adult age bands are now near the ceiling of 100%. Young adults 19 to 22—also like the seniors—showed a subsequent increase in their disapproval of ***experimental use***, with the proportion disapproving going from 73% in 1984 to 90% in 1989. (Much of the increase occurred since 1986.) There was also an increase over the same period in the 23 to 26 year old age band (from 70% in 1984 to 88% in 1990).

- For two of the other illicit drugs listed (***LSD*** and ***heroin***), disapproval rates for experimental, occasional, or regular use have been so high in recent years that there is little room for additional increase. There have, however, been significant increases in disapproval of experimental use of ***amphetamines*** and ***barbiturates***. Trying amphetamines once or twice is disapproved by 84% of 19–26 year olds in 1990 compared to 73–74% in 1984, and the corresponding figures for trying barbiturates are 88–91% in 1990 compared to 84–85% in 1984.

TABLE 43

Trends in Proportions Disapproving of Drug Use

Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. *Do you disapprove of people (who are 18 or older) doing each of the following?*	Age Group	Percentage "disapproving"[a]											'89–'90 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
Try marijuana once or twice	18	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	60.8	64.6	67.8	+3.2s
	19–22	38.2	36.1	37.0	42.0	44.1	46.6	51.6	52.8	55.8	62.4	59.6	−2.8
	23–26					*41.2*	*38.6*	*42.6*	*49.1*	*48.7*	*52.5*	*57.5*	*+5.0*
	27–30									49.0	50.9	53.8	+2.9
Smoke marijuana occasionally	18	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	74.0	77.2	80.5	+3.3s
	19–22	49.6	49.1	51.3	56.0	60.4	62.6	66.7	67.2	69.5	77.3	76.3	−1.0
	23–26					*54.8*	*52.8*	*57.0*	*64.9*	*63.4*	*69.4*	*73.7*	*+4.3*
	27–30									65.3	67.1	68.9	+1.8
Smoke marijuana regularly	18	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	89.3	89.8	91.0	+1.2
	19–22	74.3	77.2	80.0	81.8	84.9	86.7	89.2	88.7	89.1	91.2	93.1	+1.9
	23–26					*80.6*	*81.3*	*83.3*	*87.4*	*86.9*	*90.4*	*91.0*	*+0.6*
	27–30									87.6	87.5	89.7	+2.2
Try LSD once or twice	18	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	89.8	89.7	89.8	+0.1
	19–22	87.4	84.8	85.9	88.4	88.1	89.1	90.4	90.0	90.9	89.3	90.5	+1.2
	23–26					*87.3*	*87.1*	*88.0*	*89.9*	*91.4*	*91.0*	*90.7*	*−0.3*
	27–30									91.0	87.2	89.7	+2.5
Take LSD regularly	18	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	96.4	96.4	96.3	−0.1
	19–22	98.2	97.4	97.7	97.6	97.6	98.8	98.5	98.0	98.1	97.5	99.1	+1.6s
	23–26					*99.2*	*98.0*	*98.5*	*99.0*	*98.0*	*98.4*	*98.3*	*−0.1*
	27–30									98.8	97.1	98.9	+1.8s
Try cocaine once or twice	18	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5	+1.0
	19–22	73.0	69.3	69.9	74.1	72.5	77.6	78.9	82.3	85.3	88.8	90.1	+1.3
	23–26					*70.2*	*70.5*	*72.1*	*80.0*	*82.9*	*85.5*	*88.3*	*+2.8*
	27–30									82.1	81.0	85.5	+4.5
Take cocaine regularly	18	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	96.2	96.4	96.7	+0.3
	19–22	91.6	89.3	91.9	94.6	95.0	96.3	97.0	97.2	97.9	97.4	98.9	+1.5
	23–26					*95.7*	*95.3*	*97.3*	*98.1*	*97.6*	*98.3*	*98.4*	*+0.1*
	27–30									98.1	97.0	99.3	+2.3ss
Try heroin once or twice	18	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	95.0	95.4	95.1	−0.3
	19–22	96.3	95.4	95.6	95.2	95.1	96.2	96.8	96.3	97.1	96.4	98.3	+1.9s
	23–26					*96.7*	*94.9*	*96.4*	*97.1*	*97.4*	*96.7*	*96.8*	*+0.1*
	27–30									97.9	95.8	97.5	+1.7
Take heroin occasionally	18	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	96.9	97.2	96.7	−0.5
	19–22	98.6	97.8	98.3	98.3	98.6	98.7	98.3	98.3	98.3	97.9	99.2	+1.3
	23–26					*99.2*	*98.2*	*98.8*	*99.1*	*98.4*	*98.3*	*98.1*	*−0.2*
	27–30									99.2	97.3	99.0	+1.7s
Take heroin regularly	18	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	97.2	97.4	97.5	+0.1
	19–22	99.2	98.5	98.6	98.7	98.7	99.1	98.9	98.6	98.4	98.3	99.5	+1.2s
	23–26					*99.4*	*98.8*	*99.1*	*99.4*	*98.7*	*98.7*	*98.5*	*−0.2*
	27–30									99.4	97.6	99.4	+1.8s

(Table continued on next page)

TABLE 43 (Cont.)

Trends in Proportions Disapproving of Drug Use
Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

	Age Group	Percentage "disapproving"[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Try amphetamines once or twice	18	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3	+2.0
	19-22	74.5	70.5	68.9	74.0	73.0	75.6	78.9	79.9	81.8	85.3	84.4	−0.9
	23-26					*74.2*	*74.2*	*74.6*	*80.3*	*83.5*	*83.3*	*84.1*	*+0.8*
	27-30									83.5	81.0	84.3	+3.3
Take amphetamines regularly	18	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5	+1.3
	19-22	94.8	93.3	94.3	93.4	94.9	96.6	96.9	95.1	97.5	96.8	97.5	+0.7
	23-26					*96.6*	*95.9*	*96.6*	*97.0*	*97.2*	*98.1*	*97.9*	*−0.2*
	27-30									98.1	96.5	98.6	+2.1s
Try barbiturates once or twice	18	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5	+1.2
	19-22	83.5	82.3	83.8	85.1	85.2	86.1	88.3	87.5	90.1	92.0	91.1	−0.9
	23-26					*83.9*	*84.5*	*84.4*	*89.8*	*90.7*	*89.4*	*88.8*	*−0.6*
	27-30									90.5	88.3	88.4	+0.1
Take barbiturates regularly	18	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4	+1.1
	19-22	96.6	95.6	97.3	96.5	96.6	98.1	98.0	97.0	97.9	97.7	98.7	+1.0
	23-26					*98.4*	*98.5*	*97.7*	*98.6*	*98.3*	*98.3*	*98.5*	*+0.2*
	27-30									98.4	97.1	99.1	+2.0s
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	18	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	22.6	27.3	29.4	+2.1
	19-22	14.8	14.5	13.9	15.5	15.3	15.4	16.9	16.0	18.4	22.4	17.6	−4.8s
	23-26					*17.4*	*16.1*	*13.2*	*17.7*	*13.7*	*17.5*	*18.6*	*+1.1*
	27-30									19.5	19.1	18.7	−0.4
Take one or two drinks nearly every day	18	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9	+1.4
	19-22	67.8	69.7	71.3	73.3	74.3	71.3	77.4	75.3	76.5	80.0	79.7	−0.3
	23-26					*71.4*	*73.7*	*71.6*	*72.7*	*74.6*	*74.4*	*77.6*	*+3.2*
	27-30									76.0	73.9	73.3	−0.6
Take four or five drinks nearly every day	18	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	92.8	91.6	91.9	+0.3
	19-22	95.2	93.4	94.6	94.6	94.6	94.8	94.9	95.7	94.8	96.1	95.8	−0.3
	23-26					*96.2*	*95.0*	*95.5*	*96.9*	*94.3*	*95.9*	*96.9*	*+1.0*
	27-30									97.4	94.6	96.1	+1.5
Have five or more drinks once or twice each weekend	18	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	65.3	66.5	68.9	+2.4
	19-22	57.1	56.1	58.2	61.0	59.7	59.4	60.3	61.6	64.1	66.3	67.1	+0.8
	23-26					*66.2*	*68.3*	*66.5*	*67.5*	*65.2*	*63.2*	*66.9*	*+3.7*
	27-30									73.9	71.4	73.1	+1.7
Smoke one or more packs of cigarettes per day	18	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8	+0.4
	19-22	68.7	68.1	66.3	71.6	69.0	70.5	71.4	72.7	73.8	75.6	73.7	−1.9
	23-26					*69.9*	*68.7*	*67.5*	*69.7*	*66.4*	*71.1*	*71.5*	*+0.4*
	27-30									72.8	69.4	73.5	+4.1
Approx. Wtd. N =	18	3261	3610	3651	3341	3254	3265	3113	3302	3311	2799	2566	
	19-22	588	573	605	579	586	551	605	587	560	567	569	
	23-26					*542*	*535*	*560*	*532*	*538*	*516*	*524*	
	27-30									526	509	513	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

- Attitudes about ***alcohol*** use remain relatively unchanged, although among 19 to 22 year olds there has been some movement toward greater disapproval of ***daily drinking*** and toward greater disapproval of ***occasional heavy drinking***. (Both of these trends also are observed among seniors.) The applicability of the changed drinking age laws to the particular age groups may account for some of this change.

- Over the last half decade (1984–1990), there has been very little change in the proportions of high school seniors disapproving ***cigarette smoking*** at the rate of half-pack or more per day (73% vs. 72%). Among the 19–22 year old group, there was some increase in disapproval (from 69% in 1984 to 74% in 1990), but the 23–26 year old group, like the seniors, showed very little change (70% vs. 72%). And the oldest group (27–30 year olds) has changed little since the first data available for them in 1988 (73%) and 1990 (74%).

A CLOSING NOTE

It should be noted that the older age respondents are more likely than younger ones to see ***LSD***, ***heroin***, ***amphetamine***, and ***barbiturate*** use as dangerous, just the opposite of the situation with marijuana. We have recently offered the framework for a theory of drug epidemics in which direct learning (from personal use) and vicarious learning (from use by others in both the immediate and mass media environments) play an important role in changing these key attitudes.[13] To the extent that what we are observing here represent cohort effects (enduring differences between cohorts), these findings would be consistent with this theoretical perspective. Clearly the numbers of users of these particular drugs were greater when the older cohorts were growing up, and public attention and concern regarding the consequences of these drugs were greatest in the 1970's and early 1980's. In the early 70's LSD was alleged to cause both brain damage and chromosomal damage. Methamphetamine was hung with the label "speed kills." There was a quite serious epidemic of heroin use in the early 1970's, and so on. The younger cohorts in our study were not exposed to these experiences, but the older cohorts were. While there probably has been a secular trend toward greater perceived risk for drugs in general, in the case of LSD there may also have been a cohort effect that was enough to offset the secular trend among seniors, who have shown little change in perceived risk since 1980.

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[13]Johnston, L.D. (1991). Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive Communication and Drug Abuse Prevention*. Hillsdale, NJ: Lawrence Erlbaum. pp. 93–132.

This vicarious learning process has a very practical importance for the national strategy for preventing future epidemics. As future cohorts of youngsters grow up and have less opportunity for such vicarious learning, because fewer in their immediate social circles and fewer public role models are using these drugs and exhibiting adverse reactions, the less opportunity young people will have to learn the hazards of the drugs in the normal course of growing up. Unless those hazards are convincingly communicated to them in other ways—say through school prevention programs and public service advertising—the more susceptible they will be to a new epidemic of use of the same or similar drugs.

Chapter 17

THE SOCIAL MILIEU FOR YOUNG ADULTS

In Volume I we examined the extent to which high school students are exposed to drug use of various kinds, the relevant norms in their peer groups as they perceive them, and the extent to which they perceive various drugs to be available to them. In this chapter the same issues are addressed for the young adult population, many of whom are experiencing quite different social environments than during their high school years.

PEER NORMS AS PERCEIVED BY YOUNG ADULTS

Table 44 gives the current status and trends in peer norms for the same three age bands discussed in Chapter 15: namely, 19 to 22 year olds, 23 to 26 year olds, and 27 to 30 year olds. Trend data are available since 1980, 1984, and 1988, respectively, for these three age bands. Comparable data for seniors are also presented in Table 44.

Current Perceptions of Friends' Attitudes

- The peer norms reported by these young adults one to twelve years past high school are very similar to those reported by high school seniors. That means that for each of the ***illicit drugs other than marijuana*** the great majority think that their close friends would disapprove of their even trying them once or twice (about 91% for ***LSD*** and 85% for ***cocaine***).

- The majority (between 61% and 64%) now think their friends would disapprove of their even trying ***marijuana***, while nearly three-fourths think they would disapprove of occasional use and over 88% think they would disapprove of regular use.

- There appear to be no large age-related differences in current norms for any of the ***illicit drugs***. Comparing seniors with the three older age groups, we find almost identical rates of peer disapproval for trying ***amphetamines*** or ***LSD***, or for using ***marijuana regularly***. However, for the experimental or occasional use of either ***marijuana*** or ***cocaine*** there is a small drop-off in peer disapproval with increasing age.

- Regarding ***alcohol*** use, over two-thirds say their friends would disapprove if they were daily drinkers, and 9 out of 10 if they were heavy daily drinkers. However, between 45% and 47% of both the

TABLE 44

Trends in Proportion of Friends Disapproving of Drug Use

Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

Q. *How do you think your close friends feel (or would feel) about you ...*	Age Group	Percentage saying friends disapprove[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Trying marijuana once or twice	18	42.6	46.4	50.3	52.0	54.1	54.7	56.7	58.0	62.9	63.7	70.3	+6.6sss
	19-22	41.0	40.6	46.9	47.1	51.6	54.5	55.2	54.7	58.7	63.0	63.6	+0.6
	23-26					*47.7*	*47.0*	*49.1*	*53.9*	*58.2*	*62.6*	*61.3*	*−1.3*
	27-30									58.6	58.7	61.4	+2.7
Smoking marijuana occasionally	18	50.6	55.9	57.4	59.9	62.9	64.2	64.4	67.0	72.1	71.1	76.4	+5.3ss
	19-22	50.9	49.2	54.0	57.9	59.4	64.6	64.4	65.1	69.8	71.5	74.1	+2.6
	23-26					*54.3*	*56.4*	*57.1*	*63.1*	*68.1*	*73.2*	*71.8*	*−1.4*
	27-30									67.8	69.4	71.9	+2.5
Smoking marijuana regularly	18	72.0	75.0	74.7	77.6	79.2	81.0	82.3	82.9	85.5	84.9	86.7	+1.8
	19-22	70.3	75.2	75.7	79.5	80.0	82.7	83.5	84.8	86.9	87.5	89.1	+1.6
	23-26					*77.8*	*78.4*	*80.9*	*82.0*	*85.8*	*89.2*	*88.1*	*−1.1*
	27-30									85.4	86.0	88.4	+2.4
Trying LSD once or twice	18	87.4	86.5	87.8	87.8	87.6	88.6	89.0	87.9	89.5	88.4	87.9	−0.5
	19-22	87.4	90.5	88.0	89.3	89.3	91.1	90.5	91.8	90.8	91.2	89.1	−2.1
	23-26					*87.4*	*90.8*	*88.6*	*89.8*	*88.9*	*91.0*	*90.1*	*−0.9*
	27-30									88.8	89.7	92.3	+2.6
Trying cocaine once or twice	18	NA	NA	NA	NA	NA	NA	79.6	83.9	88.1	88.9	90.5	+1.6
	19-22	NA	NA	NA	NA	NA	NA	76.4	NA	84.8	87.7	89.2	+1.5
	23-26					*NA*	*NA*	*70.8*	*NA*	*81.4*	*84.5*	*84.1*	*−0.4*
	27-30									81.8	81.1	83.7	+2.6
Taking cocaine occasionally	18	NA	NA	NA	NA	NA	NA	87.3	89.7	92.1	92.1	94.2	+2.1s
	19-22	NA	NA	NA	NA	NA	NA	84.9	NA	91.0	93.8	94.2	+0.4
	23-26					*NA*	*NA*	*81.7*	*NA*	*88.2*	*91.5*	*92.4*	*+0.9*
	27-30									87.7	89.5	90.0	+0.5
Trying an amphetamine once or twice	18	78.9	74.4	75.7	76.8	77.0	77.0	79.4	80.0	82.3	84.1	84.2	+0.1
	19-22	75.8	76.7	75.3	74.3	77.0	79.7	81.5	81.3	83.0	83.5	84.5	+1.0
	23-26					*78.4*	*79.1*	*76.7*	*81.7*	*83.0*	*85.6*	*84.3*	*−1.3*
	27-30									82.7	84.1	84.9	+0.8
Taking one or two drinks nearly every day	18	70.5	69.5	71.9	71.7	73.6	75.4	75.9	71.8	74.9	76.4	79.0	+2.6
	19-22	71.9	72.1	68.6	73.5	71.6	72.2	72.7	70.2	73.9	77.1	73.3	−3.8
	23-26					*63.6*	*66.8*	*67.7*	*68.3*	*69.2*	*70.8*	*72.7*	*+1.9*
	27-30									71.0	68.0	70.4	+2.4
Taking four or five drinks nearly every day	18	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	87.1	87.2	88.2	+1.0
	19-22	93.7	91.7	89.9	91.9	91.7	92.5	91.5	90.8	90.4	92.5	89.9	−2.6
	23-26					*90.8*	*90.2*	*92.5*	*92.8*	*93.7*	*92.1*	*92.1*	*0.0*
	27-30									92.8	92.0	92.9	+0.9
Having five or more drinks once or twice each weekend	18	50.6	50.3	51.2	50.6	51.3	55.9	54.9	52.4	54.0	56.4	59.0	+2.6
	19-22	53.5	51.7	51.7	53.3	50.8	53.3	47.0	49.4	50.5	56.8	53.1	−3.7
	23-26					*53.8*	*57.3*	*61.0*	*57.2*	*58.8*	*57.5*	*55.1*	*−2.4*
	27-30									61.9	65.1	66.3	+1.2
Smoking one or more packs of cigarettes per day	18	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	76.4	74.4	75.3	+0.9
	19-22	75.6	75.1	75.4	78.5	76.2	79.7	77.7	78.6	80.2	78.4	77.5	−0.9
	23-26					*73.9*	*77.3*	*80.3*	*80.5*	*79.5*	*80.5*	*78.5*	*−2.0*
	27-30									81.2	80.9	82.9	+2.0
Approx. Wtd. N =	18	2766	3120	3024	2722	2721	2688	2639	2815	2778	2400	2184	
	19-22	569	597	580	577	582	556	577	595	584	555	559	
	23-26					*510*	*548*	*549*	*540*	*510*	*513*	*516*	
	27-30									483	518	479	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

19 to 22 year olds and the 23 to 26 year olds say their friends would not disapprove of ***heavy weekend drinking***, and 34% of the 27 to 30 year olds say the same.

These attitudes do differ by age group, though not dramatically. Peer acceptance of light daily drinking seems to increase slightly with age. Peer disapproval of heavy weekend drinking shows a different pattern: it is somewhat higher among 27 to 30 year olds (66%) compared to the 19–22 and 23 to 26 year old groups (53% to 55%).

- Peer disapproval of ***cigarette smoking*** is high in all four age bands, with 75% of seniors saying their friends would disapprove of pack-a-day smoking, 78% of the 19 to 22 year olds, 79% of the 23 to 26 year olds, and 83% of the 27 to 30 year olds saying so.

Trends in Peer Norms for Young Adults

- There have been some important changes taking place in the social acceptability of drug using behaviors among young adults' peers, as has been true for high school seniors. Peer disapproval of ***marijuana*** use has grown substantially, since at least 1980 for the 19 to 22 year olds; for example, the proportion whose friends would disapprove of even trying marijuana rose from 41% in 1980 to 64% in 1990. Compared to young adults, high school seniors have consistently been somewhat more disapproving of experimenting with marijuana. (See Table 44.)

- There has been a more gradual drift upward in peer disapproval levels for ***amphetamines***, but nevertheless a movement in a more restrictive direction. ***LSD*** has shown a little change in the same direction; but disapproval rates are already so high that there remains relatively little room for further movement.

- Perceived peer norms regarding ***cocaine*** use were first measured in 1986. They show that in the four years since—in which self-reported cocaine use declined substantially—peer norms have shifted considerably toward disapproval. By 1990, 89% of the 19 to 22 year olds thought their friends would disapprove of their even trying cocaine (vs. 76% in 1986), and 94% thought their friends would disapprove of occasional use (vs. 85% in 1986). In the two older age bands shifts have been occurring in the same direction but peer disapproval of cocaine still remains negatively associated with age.

- While peer norms regarding ***alcohol*** use have become somewhat more restrictive among seniors, it is not clear that there has been much change among the young adults.

- Peer norms regarding ***cigarette smoking*** had been more restrictive among high school seniors in the early years of this study: peer disapproval rose from 64% in 1975 to 73% in 1979. However, since then there has been little further change, with friends' disapproval standing at 75% in 1990. Similarly, there has been little change in recent years among the older groups: between 1985 and 1990, peer disapproval among 19 to 22 year olds actually declined a bit (from 80% to 78%), and among 23 to 26 year olds it increased a bit from 77% to 79%. In other words, for all these young adults, there has been very little change in the past five years (or longer) in rates of perceived peer disapproval of cigarette smoking, despite all the recent publicity about changing norms and laws regarding smoking.

EXPOSURE TO DRUG USE BY FRIENDS AND OTHERS

Exposure to drug use is measured by two sets of questions, each appearing on a (different) single questionnaire form. The first asks about proportion of close friends using each drug, the second about how often the respondent has been around people using each of a list of drugs "to get high or for kicks." These are the same questions asked of seniors, and the results from seniors are included in Table 45 for comparison purposes.

Exposure to Drug Use by Young Adults in 1990

- Relatively high proportions of young adults have at least some friends who use illicit drugs (Table 45). Among 19 to 22 year olds, 73% had friends who use ***some illicit drug***, and 53% had friends who use some ***illicit drug other than marijuana***. The percentages are slightly lower for the 23 to 26 year olds and the 27 to 30 year olds. Only 11% of the younger group (and between 6% and 10% of the two older groups) say that *most or all* of their friends use any illicit drug, and only 3% of all three young adult age bands say most or all of their friends use any illicit drugs other than marijuana.

- Exposure is greatest, of course, for ***marijuana*** (just over two-thirds report some friends using) followed by ***cocaine*** (33–38%), ***amphetamines*** (just under one-quarter), and "***crack***," specifically (14–17%). The other illicit drugs have relatively small proportions of friends using ranging from 10% or less for ***heroin*** to between 10% and 20% for most of the other drugs.

- For a number of drugs the proportion having any friends who use is lower for each higher age group. These include the ***inhalants***, ***LSD***, ***other hallucinogens***, ***MDMA***, ***heroin***, ***opiates other than heroin***, ***amphetamines***, ***barbiturates***, ***methaqualone***, and ***steroids***.

TABLE 45

Trends in Proportion of Friends Using Drugs

Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30
(Entries are percentages)

Q. *How many friends would you estimate ...*	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Take any illicit drug[a]													
% saying none	18	12.5	14.6	13.7	17.4	19.0	17.6	17.8	18.3	20.9	23.1	29.0	+5.9sss
	19–22	9.8	12.0	13.2	15.0	17.7	17.1	19.5	23.3	22.8	21.6	27.3	+5.7s
	23–26					16.4	17.3	19.7	19.1	25.6	26.2	34.2	+8.0ss
	27–30									25.2	27.1	30.4	+3.3
% saying most or all	18	32.5	29.6	26.5	23.8	20.9	22.7	21.5	18.6	15.8	15.7	11.6	−4.1ss
	19–22	34.9	32.8	28.1	22.4	21.9	18.2	16.2	14.0	13.5	10.9	10.5	−0.4
	23–26					19.6	15.4	16.2	11.7	9.5	9.7	9.5	−0.2
	27–30									8.6	6.4	5.9	−0.5
Take any illicit drug[a] other than marijuana													
% saying none	18	37.6	36.7	35.3	38.8	38.7	38.2	36.7	37.6	43.5	43.8	49.9	+6.1sss
	19–22	32.1	32.2	33.3	34.8	39.2	43.9	39.0	42.7	46.5	39.2	46.6	+7.4s
	23–26					36.3	36.0	41.0	38.9	44.9	45.8	52.2	+6.4s
	27–30									44.1	45.0	50.3	+5.3
% saying most or all	18	11.1	11.9	10.9	11.0	10.3	10.4	10.3	9.2	6.9	7.7	5.1	−2.6ss
	19–22	9.8	12.9	11.8	9.8	9.3	8.6	7.6	5.0	5.3	4.0	3.2	−0.8
	23–26					10.6	6.6	8.6	5.2	3.9	4.2	3.4	−0.8
	27–30									4.6	3.0	2.8	−0.2
Smoke marijuana													
% saying none	18	13.6	17.0	15.6	19.7	22.3	20.5	20.8	21.6	24.7	27.5	31.7	+4.2ss
	19–22	11.2	13.6	14.8	16.2	18.4	18.9	21.5	24.7	24.9	26.2	32.4	+6.2s
	23–26					18.0	19.2	22.3	20.6	28.4	30.2	38.2	+8.0ss
	27–30									28.2	31.8	34.9	+3.1
% saying most or all	18	31.3	27.7	23.8	21.7	18.3	19.8	18.2	15.8	13.6	13.4	10.1	−3.3ss
	19–22	34.1	30.6	25.6	20.6	19.4	16.0	13.3	12.5	12.2	9.0	9.2	+0.2
	23–26					17.0	14.3	13.7	10.4	7.8	8.6	8.3	−0.3
	27–30									6.8	4.4	4.0	−0.4
Use inhalants													
% saying none	18	82.2	83.5	81.6	83.9	80.7	78.8	77.6	75.3	79.2	77.9	80.0	+2.1
	19–22	88.1	86.8	86.2	87.7	88.3	90.4	89.1	87.3	89.1	88.3	87.0	−1.3
	23–26					92.3	93.3	92.8	93.9	93.8	94.1	93.9	−0.2
	27–30									95.4	96.5	97.1	+0.6
% saying most or all	18	1.2	0.9	1.3	1.1	1.1	1.5	2.0	1.9	1.2	1.9	1.0	−0.9s
	19–22	0.5	0.4	0.7	0.3	0.5	0.6	0.7	0.7	0.7	0.4	0.6	+0.2
	23–26					0.6	0.2	0.6	0.1	0.2	0.4	0.4	0.0
	27–30									0.3	0.0	0.2	+0.2
Use nitrites													
% saying none	18	81.0	82.6	82.5	85.5	85.0	84.4	82.0	81.7	86.4	86.7	89.6	+2.9s
	19–22	81.6	84.0	85.8	86.2	91.1	90.1	88.3	86.8	89.8	NA	NA	NA
	23–26					89.2	92.2	92.0	92.1	94.8	NA	NA	NA
	27–30									93.4	NA	NA	NA
% saying most or all	18	1.3	1.2	0.9	0.7	1.2	1.0	1.2	1.3	0.7	0.9	0.6	−0.3
	19–22	0.3	0.4	0.9	0.6	0.6	0.6	0.4	0.4	0.2	NA	NA	NA
	23–26					0.8	0.3	0.4	0.3	0.1	NA	NA	NA
	27–30									0.5	NA	NA	NA
Take LSD													
% saying none	18	71.9	71.5	72.2	76.0	76.1	75.6	75.5	74.7	75.9	74.8	75.0	+0.2
	19–22	69.1	74.1	73.5	77.4	78.4	81.2	81.3	81.8	81.0	79.9	79.9	0.0
	23–26					78.5	82.8	84.6	84.1	86.7	85.9	87.7	+1.8
	27–30									89.6	92.3	90.9	−1.4
% saying most or all	18	1.8	2.2	2.4	1.4	2.0	1.5	1.8	1.6	1.5	2.4	1.9	−0.5
	19–22	1.2	0.8	0.9	1.0	0.6	0.8	0.9	0.6	1.3	0.4	1.2	+0.8
	23–26					0.8	0.5	1.0	0.2	0.6	0.5	0.6	+0.1
	27–30									0.3	0.2	0.3	+0.1

(Table continued on next page)

TABLE 45 (Cont.)

Trends in Proportion of Friends Using Drugs

Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30
(Entries are percentages)

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Take other psychedelics													
% saying none	18	71.8	73.7	74.4	77.9	78.7	78.0	77.7	78.3	82.2	81.9	84.1	+2.2
	19–22	66.6	74.5	74.9	79.0	79.8	83.4	84.2	85.0	83.9	86.1	84.7	−1.4
	23–26					80.0	83.3	86.8	86.8	88.3	90.4	91.3	+0.9
	27–30									89.4	92.6	92.9	+0.3
% saying most or all	18	2.2	2.1	1.9	1.6	1.9	1.4	1.3	1.2	0.9	1.4	1.0	−0.4
	19–22	1.5	0.9	1.1	1.2	0.7	1.0	0.7	0.6	0.9	0.2	0.5	+0.3
	23–26					0.8	0.3	0.5	0.3	0.2	0.3	0.8	+0.5
	27–30									0.2	0.1	0.3	+0.2
Use PCP													
% saying none	18	77.8	82.8	82.7	85.8	85.8	84.1	83.9	84.5	86.5	85.3	87.0	+1.7
	19–22	75.9	84.7	84.7	87.4	90.5	91.1	89.9	90.3	89.9	NA	NA	NA
	23–26					88.4	93.2	92.6	93.1	94.9	NA	NA	NA
	27–30									93.3	NA	NA	NA
% saying most or all	18	1.6	0.9	0.9	1.1	1.1	1.2	1.2	1.1	0.8	1.2	0.5	−0.7s
	19–22	0.5	0.3	0.3	0.5	0.7	0.7	0.2	0.1	0.3	NA	NA	NA
	23–26					0.6	0.0	0.4	0.0	0.2	NA	NA	NA
	27–30									0.4	NA	NA	NA
Take cocaine													
% saying none	18	58.4	59.9	59.3	62.4	61.1	56.2	54.4	56.3	62.3	62.6	68.3	+5.7ss
	19–22	49.0	51.1	50.2	53.5	52.4	54.1	51.7	54.3	58.0	57.3	66.8	+9.5ss
	23–26					47.6	46.8	48.4	49.3	52.9	59.2	65.2	+6.0s
	27–30									52.1	56.7	61.7	+5.0
% saying most or all	18	6.1	6.3	4.9	5.1	5.1	5.8	6.2	5.1	3.4	3.7	2.1	−1.6ss
	19–22	7.0	8.6	7.8	6.1	6.3	6.1	6.1	3.3	3.5	2.1	1.2	−0.9
	23–26					9.1	5.3	7.0	4.1	3.1	2.7	2.1	−0.6
	27–30									3.5	2.0	2.3	+0.3
Take crack													
% saying none	18								72.6	74.6	73.9	80.8	+6.9sss
	19–22								76.2	78.2	79.4	85.4	+6.0ss
	23–26								73.6	77.6	80.2	85.6	+5.4s
	27–30									77.9	81.6	83.4	+1.8
% saying most or all	18								2.2	1.1	2.1	0.6	−1.5sss
	19–22								0.7	0.8	1.0	0.6	−0.4
	23–26								0.8	0.9	0.8	0.5	−0.3
	27–30									1.2	0.9	0.9	0.0
Take MDMA ("ecstasy")													
% saying none	19–22										83.7	85.7	+2.0
	23–26										92.4	91.0	−1.4
	27–30										94.4	93.7	−0.7
% saying most or all	19–22										0.4	0.7	+0.3
	23–26										0.5	0.2	−0.3
	27–30										0.5	0.3	−0.2
Take heroin													
% saying none	18	87.0	87.5	86.8	88.0	87.0	85.5	84.7	86.1	87.6	86.0	88.6	+2.6s
	19–22	89.0	91.9	90.6	92.5	92.9	93.5	91.5	91.5	92.2	93.2	93.5	+0.3
	23–26					93.9	95.6	95.7	93.5	96.4	94.8	95.8	+1.0
	27–30									96.2	97.2	95.5	−1.7
% saying most or all	18	1.0	0.5	0.7	0.8	0.8	0.9	1.1	0.9	0.7	1.1	0.4	−0.7s
	19–22	0.3	0.5	0.1	0.2	0.4	0.6	0.2	0.3	0.2	0.2	0.3	+0.1
	23–26					0.4	0.2	0.2	0.0	0.2	0.4	0.2	−0.2
	27–30									0.2	0.1	0.2	+0.1

(Table continued on next page)

TABLE 45 (Cont.)

Trends in Proportion of Friends Using Drugs

Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30
(Entries are percentages)

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89-'90 change
Take other narcotics													
% saying none	18	77.6	76.9	76.1	79.2	78.6	77.2	78.2	76.8	80.8	80.8	82.8	+2.0
	19-22	77.2	79.6	78.1	82.1	82.6	83.1	85.4	84.6	85.9	85.0	87.1	+2.1
	23-26					84.0	85.1	86.0	87.0	89.4	89.2	89.5	+0.3
	27-30									87.9	91.4	90.9	-0.5
% saying most or all	18	1.7	1.5	1.4	1.4	1.6	1.4	1.8	1.4	1.2	1.4	0.9	-0.5
	19-22	0.9	0.7	0.6	0.5	0.8	1.0	0.5	0.4	0.9	0.1	0.6	+0.5
	23-26					0.4	0.3	0.7	0.0	0.3	0.2	0.2	0.0
	27-30									0.3	0.0	0.2	+0.2
Take amphetamines													
% saying none	18	56.1	51.2	49.4	53.9	54.9	56.7	58.2	60.5	66.6	66.5	71.3	+4.8ss
	19-22	45.9	47.8	46.7	50.3	53.9	57.9	61.5	65.5	73.2	70.4	76.7	+6.3s
	23-26					54.4	59.9	66.5	67.9	71.6	76.9	79.4	+2.5
	27-30									73.9	78.4	80.7	+2.3
% saying most or all	18	4.8	6.4	5.4	5.1	4.5	3.4	3.4	2.6	1.9	2.6	1.9	-0.7
	19-22	3.8	5.7	4.6	3.8	3.3	2.9	1.3	1.9	1.4	0.7	1.0	+0.3
	23-26					1.9	1.8	1.7	1.2	0.3	0.6	0.7	+0.1
	27-30									0.6	0.4	0.5	+0.1
Take barbiturates													
% saying none	18	69.5	68.9	68.7	71.7	73.4	72.9	74.4	75.7	80.3	79.7	82.6	+2.9s
	19-22	66.8	72.1	72.3	76.4	78.0	82.8	81.2	84.5	86.0	85.9	88.1	+2.2
	23-26					77.8	81.3	83.7	85.9	88.8	89.6	91.1	+1.5
	27-30									88.0	91.5	91.2	-0.3
% saying most or all	18	2.6	2.1	1.8	1.7	1.7	1.6	1.4	1.1	1.1	1.4	0.6	-0.8s
	19-22	1.1	1.3	1.0	0.8	0.8	0.5	0.3	0.4	0.8	0.1	0.2	+0.1
	23-26					0.4	0.3	0.3	0.3	0.1	0.2	0.2	0.0
	27-30									0.2	0.0	0.4	+0.4
Take quaaludes													
% saying none	18	67.5	65.0	64.5	70.3	73.9	74.0	76.5	78.0	82.9	83.4	85.7	+2.3
	19-22	61.7	63.8	64.6	69.5	75.4	80.1	79.7	83.1	87.5	89.1	90.0	+0.9
	23-26					74.3	79.0	82.6	85.0	87.9	89.7	91.4	+1.7
	27-30									88.2	92.1	91.8	-0.3
% saying most or all	18	3.6	3.6	2.6	2.6	1.7	1.3	1.6	1.0	1.0	1.3	0.8	-0.5
	19-22	1.9	2.7	1.2	1.3	1.2	0.6	0.2	0.4	0.4	0.2	0.6	+0.4
	23-26					0.6	0.3	0.7	0.2	0.2	0.4	0.2	-0.2
	27-30									0.5	0.2	0.2	0.0
Take tranquilizers													
% saying none	18	70.3	70.5	70.1	73.3	73.4	74.2	75.8	76.7	80.1	82.0	85.1	+3.1s
	19-22	62.5	66.1	71.3	77.1	78.0	80.3	79.4	82.0	83.6	85.2	86.6	+1.4
	23-26					70.7	73.7	77.7	79.2	84.5	86.9	85.2	-1.7
	27-30									79.9	83.4	83.1	-0.3
% saying most or all	18	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	0.7	1.5	0.5	-1.0ss
	19-22	0.7	0.9	0.5	0.8	0.3	0.7	0.3	0.6	0.4	0.1	0.4	+0.3
	23-26					0.4	0.3	0.5	0.0	0.3	0.4	0.2	-0.2
	27-30									0.5	0.3	0.4	+0.1
Take steroids													
% saying none	19-22										76.6	78.5	+1.9
	23-26										84.7	85.0	+0.3
	27-30										90.1	89.5	-0.6
% saying most or all	19-22										0.2	0.6	+0.4
	23-26										0.4	0.0	-0.4
	27-30										0.5	0.0	-0.5

(Table continued on next page)

TABLE 45 (Cont.)

Trends in Proportion of Friends Using Drugs

Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30
(Entries are percentages)

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Drink alcoholic beverages													
% saying none	18	3.9	5.3	4.3	4.5	5.4	5.4	4.4	4.6	4.3	4.9	8.0	+3.1sss
	19–22	3.7	3.3	3.4	2.7	3.2	4.2	3.1	4.4	3.0	2.4	3.9	+1.5
	23–26					3.2	3.2	3.8	4.1	4.7	4.6	5.3	+0.7
	27–30									3.9	4.0	4.8	+0.8
% saying most or all	18	68.9	67.7	69.7	69.0	66.6	66.0	68.0	71.8	68.1	67.1	60.5	−6.6sss
	19–22	76.6	77.6	75.2	75.1	74.9	71.9	74.2	71.3	73.4	74.1	70.0	−4.1
	23–26					73.2	74.4	69.5	74.9	68.9	69.8	67.1	−2.7
	27–30									66.7	67.8	62.0	−5.8s
Get drunk at least once a week	18	16.9	18.2	16.9	16.1	18.5	17.5	15.3	14.4	15.6	17.2	20.8	+3.6ss
% saying none	19–22	19.1	20.1	20.0	19.6	20.2	23.3	18.0	18.9	19.4	19.6	19.9	+0.3
	23–26					26.9	27.3	26.5	26.3	27.9	26.9	27.8	+0.9
	27–30									33.7	38.2	34.6	−3.6
% saying most or all	18	30.1	29.4	29.9	31.0	29.6	29.9	31.8	31.3	29.6	31.1	27.5	−3.6s
	19–22	21.9	23.3	22.0	20.2	22.7	21.7	20.8	21.3	24.0	22.6	23.6	+1.0
	23–26					11.4	11.6	12.5	11.9	12.8	12.0	13.9	+1.9
	27–30									5.2	6.3	6.7	+0.4
Smoke cigarettes													
% saying none	18	9.4	11.5	11.7	13.0	14.0	13.0	12.2	11.7	12.3	13.5	15.1	+1.6
	19–22	5.6	5.7	6.6	6.9	8.1	8.4	8.9	9.7	10.7	10.0	13.9	+3.9s
	23–26					6.1	5.0	8.4	7.9	10.2	9.9	11.3	+1.4
	27–30									7.4	10.2	9.3	−0.9
% saying most or all	18	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	20.2	23.1	21.4	−1.7
	19–22	31.8	27.6	25.6	25.2	25.6	22.7	21.9	22.5	19.3	19.9	19.2	−0.7
	23–26					25.6	22.7	19.7	18.5	16.5	20.5	16.9	−3.6
	27–30									15.8	14.2	11.6	−2.6
Approx. Wtd. N =	18	2987	3307	3303	3095	2945	2971	2798	2948	2961	2587	2361	
	19–22	576	592	564	579	543	554	579	572	562	579	556	
	23–26					*527*	*534*	*546*	*528*	*528*	*506*	*510*	
	27–30									516	507	499	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a]These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all of the drugs listed except cigarettes and alcohol.

- ***Tranquilizers*** show a slightly curvilinear relationship with age, with the seniors and the 27 to 30 year olds most likely to have friends using.

- ***Cocaine*** exhibits quite a different pattern. Recall that it is the one illicit drug that shows an important increase in active use with age. It also shows somewhat higher prevalence of friends' use in the older age groups: among seniors 32% report having some friends who use; among 19 to 22 year olds 33%; among 23 to 26 year olds 35%; and among 27 to 30 year olds 38%. In addition, the data on being around people who were using at some time in the prior twelve months (see Table 46) show differences between the seniors and those beyond high school.

- In general it appears that even some of those who have friends who use are not directly exposed to use themselves, judging by the differences in proportions saying they have some friends who use (in Table 45), and the proportions who say they have not been around people who were using during the prior year (in Table 46). This is especially true of the older age band.

- With respect to ***alcohol*** use, the great majority of young adults have at least some friends who ***get drunk at least once a week***, although this differs by age: 79% of the high school seniors, 80% of the 19 to 22 year olds, 72% of the 23 to 26 year olds, and 65% of the 27 to 30 year olds. The proportions who say *most or all* of their friends get drunk once a week differs substantially by age: 28% of the seniors, 24% of the 19 to 22 year olds, 14% of the 23 to 26 year olds, and 7% of the 27 to 30 year olds. In terms of direct exposure during the past year to people who were drinking alcohol "to get high or for 'kicks'," such exposure is almost universal in these four age groups: 94%, 92%, 91%, and 86%, respectively. (See Table 46.)

- Nearly all of these four groups also have at least a few friends who ***smoke cigarettes***, with little difference by age. About a fifth of each of the younger three groups state that most or all of their friends smoke: 21% of the seniors, 19% of the 19 to 22 year olds, and 17% of the 23 to 26 year olds; while 12% of the 27 to 30 year olds say the same.

Trends in Exposure to Drug Use by Young Adults

- Tables 45 and 46 also give trends in the proportion of friends using and in direct exposure to use. Trends are available for the 19 to 22 year olds since 1980, and for the 23 to 26 year olds since 1984, and for the 27 to 30 year olds since 1988. Data for high school seniors are also shown in these tables.

- As we found for seniors, exposure to use pretty much parallels the levels of self-reported use for various drugs among young adults. In recent years that has meant a decreasing number being exposed to ***any illicit drug use*** in general (Table 46), or through their own friendship circle (Table 45).

- This has been largely due to the decrease in exposure to ***marijuana*** use. It is particularly noteworthy that, while 34% of the 19 to 22 year olds in 1980 said *most or all* of their friends used marijuana, only 9% said the same in 1990. Clearly the number of friendship groupings in which marijuana use is widespread has dropped dramatically.

- The proportion exposed to use of ***any illicit drugs other than marijuana***, by way of contrast, did not change much between 1980 and 1986, but between 1986 and 1990 there was a drop in such exposure in all four age groups. In all four age groups this appears to be due particularly to drops in exposure to the use of ***cocaine*** and ***amphetamines***, although there were decreases for ***methaqualone***, ***barbiturates***, and ***tranquilizers*** as well.

- All age groups have shown a longer term decline in exposure to ***barbiturate*** use, as well as the use of ***amphetamines***, ***methaqualone*** and ***tranquilizers***.

- In 1990, ***crack*** cocaine showed a particularly large drop in the proportion of seniors and young adults saying they have any friends who use.

- ***Alcohol*** has shown rather little change in either exposure to use, or in proportion of friends using or in proportion having friends who get drunk at least once a week.

- Among seniors the proportion who said most or all of their friends ***smoked cigarettes*** declined appreciably between 1975 and 1981, about when self-reported use declined, and leveled thereafter. Among 19 to 22 year olds a decline in friends' use occurred between 1980 (or possibly earlier) and 1985, followed by a leveling; and among 23 to 26 year olds such a downturn was evident between at least 1984 (the first year for which data are available) and 1988. These staggered changes illustrate that the "cohort effects" are moving up the age spectrum.

- All of these changes parallel changes in self-reported use by these four age groups, reinforcing our trust in the validity of the self-report data.

TABLE 46

Trends in Exposure to Drug Use

Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30

(Entries are percentages)

Q. *During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?*	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Any illicit drug[a]													
% saying not at all	18	15.7	17.3	18.6	20.6	22.1	22.3	24.5	26.1	28.7	31.4	32.4	+1.0
	19–22	19.4	19.0	18.5	23.5	23.7	22.6	25.4	27.3	30.5	38.5	39.2	+0.7
	23–26					*31.1*	*29.8*	*32.0*	*37.6*	*37.3*	*41.7*	*45.4*	*+3.7*
	27–30									47.6	49.8	53.0	+3.2
% saying often	18	36.3	36.1	31.4	29.8	28.3	27.2	26.3	23.3	20.8	22.0	20.7	−1.3
	19–22	34.6	34.0	32.1	24.4	24.4	23.7	21.1	18.9	19.9	16.2	16.4	+0.2
	23–26					*20.7*	*23.3*	*16.5*	*17.4*	*18.2*	*13.8*	*13.7*	*−0.1*
	27–30									13.7	12.0	10.8	−1.2
Any illicit drug[a] other than marijuana													
% saying not at all	18	41.5	37.4	37.5	40.6	40.2	40.7	44.7	48.3	52.2	52.9	54.6	+1.7
	19–22	43.1	41.6	38.4	45.1	42.9	46.7	46.6	51.5	53.6	63.5	60.6	−2.9
	23–26					*48.5*	*48.1*	*48.5*	*56.4*	*57.1*	*63.2*	*66.0*	*+2.8*
	27–30									64.2	66.3	68.5	+2.2
% saying often	18	14.1	17.1	16.6	14.2	14.6	12.9	12.1	10.2	9.6	10.7	9.2	−1.5
	19–22	11.8	15.6	13.5	11.1	10.7	10.2	8.2	8.1	7.5	6.7	4.5	−2.2
	23–26					*9.0*	*10.4*	*9.3*	*8.5*	*6.7*	*5.0*	*5.1*	*+0.1*
	27–30									6.0	4.7	4.1	−0.6
Marijuana													
% saying not at all	18	18.0	19.8	22.1	23.8	25.6	26.5	28.0	29.6	33.0	35.2	36.6	+1.4
	19–22	20.2	20.2	21.3	27.3	25.9	24.5	27.6	29.5	33.7	40.7	42.5	+1.8
	23–26					*34.7*	*34.0*	*35.9*	*41.0*	*42.4*	*45.0*	*49.4*	*+4.4*
	27–30									50.9	52.6	57.9	+5.3
% saying often	18	33.8	33.1	28.0	26.1	24.8	24.2	24.0	20.6	17.9	19.5	17.8	−1.7
	19–22	32.6	30.5	30.3	21.1	21.9	20.3	18.6	16.4	18.3	14.2	14.7	+0.5
	23–26					*17.5*	*20.6*	*14.6*	*14.8*	*15.6*	*11.6*	*11.2*	*−0.4*
	27–30									10.9	9.8	8.5	−1.3
LSD													
% saying not at all	18	82.8	82.6	83.9	86.2	87.5	86.8	86.9	87.1	86.6	85.0	85.1	+0.1
	19–22	82.6	84.2	84.0	86.5	87.2	87.3	89.2	89.1	88.0	88.0	87.9	−0.1
	23–26					*91.7*	*90.7*	*91.2*	*92.7*	*93.7*	*93.3*	*91.6*	*−1.7*
	27–30									96.4	96.8	96.7	−0.1
% saying often	18	1.4	2.0	1.9	1.4	1.5	1.3	1.6	1.8	1.6	2.2	2.6	+0.4
	19–22	1.4	1.5	1.4	0.6	0.8	0.7	0.5	1.2	0.6	1.1	1.2	+0.1
	23–26					*0.3*	*0.4*	*0.4*	*0.7*	*0.6*	*0.3*	*0.5*	*+0.2*
	27–30									0.3	0.2	0.5	+0.3
Other psychedelics													
% saying not at all	18	79.6	82.4	83.2	86.9	87.3	87.5	88.2	90.0	91.0	91.2	90.6	−0.6
	19–22	81.7	83.7	83.7	87.5	89.5	89.0	90.8	90.9	92.3	91.6	91.7	+0.1
	23–26					*91.6*	*91.1*	*90.9*	*94.0*	*94.9*	*95.2*	*94.3*	*−0.9*
	27–30									95.0	96.6	96.6	0.0
% saying often	18	2.2	2.0	2.6	1.1	1.7	1.4	1.5	1.2	1.1	1.3	1.2	−0.1
	19–22	1.1	0.9	0.9	0.7	0.8	0.8	0.2	0.8	0.3	0.4	0.4	0.0
	23–26					*0.1*	*0.3*	*0.5*	*0.6*	*0.8*	*0.1*	*0.4*	*+0.3*
	27–30									0.2	0.4	0.5	+0.1
Cocaine													
% saying not at all	18	62.3	63.7	65.1	66.7	64.4	61.7	62.6	65.1	69.8	69.8	72.3	+2.5
	19–22	62.4	57.7	56.4	63.4	61.1	60.6	58.5	63.0	63.8	73.4	76.0	+2.6
	23–26					*61.5*	*59.4*	*58.0*	*65.5*	*64.1*	*72.0*	*76.0*	*+4.0*
	27–30									71.1	71.7	75.8	+4.1
% saying often	18	5.9	6.6	6.6	5.2	6.7	7.1	7.8	5.9	5.1	5.4	4.7	−0.7
	19–22	5.8	7.6	6.5	4.3	6.5	7.0	5.4	5.2	4.8	4.3	2.2	−2.1s
	23–26					*5.3*	*8.5*	*7.0*	*6.0*	*5.4*	*3.5*	*2.5*	*−1.0*
	27–30									4.4	3.9	2.9	−1.0

(Table continued on next page)

TABLE 46 (Cont.)

Trends in Exposure to Drug Use

Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30

(Entries are percentages)

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Heroin													
% saying not at all	18	92.6	93.4	92.9	94.9	94.0	94.5	94.0	94.2	94.3	93.5	94.6	+1.1
	19-22	95.6	96.7	95.9	97.1	96.9	95.2	97.1	97.1	97.1	97.1	97.5	+0.4
	23-26					*97.7*	*96.7*	*96.8*	*97.1*	*98.3*	*97.7*	*97.7*	*0.0*
	27-30									97.9	98.6	98.5	−0.1
% saying often	18	0.4	0.6	1.0	0.7	1.1	0.5	1.0	0.9	0.8	1.0	0.5	−0.5
	19-22	0.2	0.3	0.3	0.1	0.2	0.5	0.2	0.1	0.2	0.1	0.2	+0.1
	23-26					*0.0*	*0.7*	*0.3*	*0.6*	*0.4*	*0.3*	*0.6*	*+0.3*
	27-30									0.3	0.3	0.5	+0.2
Other narcotics													
% saying not at all	18	80.4	82.5	81.5	82.7	82.0	81.6	84.4	85.6	85.2	86.2	85.8	−0.4
	19-22	85.6	85.6	84.8	89.1	87.6	86.3	90.2	87.8	88.8	91.0	90.6	−0.4
	23-26					*91.0*	*87.7*	*90.8*	*90.3*	*92.6*	*92.0*	*94.1*	*+2.1*
	27-30									93.5	93.5	94.2	+0.7
% saying often	18	1.7	1.7	2.4	2.2	2.0	1.8	2.1	1.7	1.7	1.7	1.6	−0.1
	19-22	0.7	0.5	0.5	0.9	0.7	1.0	0.5	0.4	0.9	0.3	0.2	−0.1
	23-26					*0.4*	*0.5*	*1.3*	*0.8*	*0.8*	*0.5*	*1.6*	*+1.1*
	27-30									0.7	0.5	1.0	+0.5
Amphetamines													
% saying not at all	18	59.2	50.5	49.8	53.9	55.0	59.0	63.5	68.3	72.1	72.6	71.7	−0.9
	19-22	57.7	51.4	51.6	60.3	58.7	64.1	68.7	73.3	78.8	81.5	80.5	−1.0
	23-26					*67.7*	*69.5*	*70.9*	*79.1*	*81.2*	*86.0*	*83.2*	*−2.8*
	27-30									84.4	85.7	86.5	+0.8
% saying often	18	8.3	12.1	12.3	10.1	9.0	6.5	5.8	4.5	4.1	4.7	4.1	−0.6
	19-22	7.4	9.9	7.7	6.9	5.4	4.4	3.1	3.3	2.2	1.5	1.1	−0.4
	23-26					*3.9*	*3.2*	*2.2*	*3.3*	*1.9*	*0.7*	*2.0*	*+1.3*
	27-30									2.0	2.0	1.2	−0.8
Barbiturates													
% saying not at all	18	74.8	74.1	74.3	77.5	78.8	81.1	84.2	86.9	87.6	88.2	86.7	−1.5
	19-22	74.4	76.9	78.2	81.7	84.3	85.3	87.2	88.0	91.8	91.7	93.5	+1.8
	23-26					*83.9*	*86.9*	*89.0*	*92.9*	*92.9*	*93.4*	*93.1*	*−0.3*
	27-30									92.0	93.2	94.1	+0.9
% saying often	18	3.4	4.0	4.3	3.0	2.7	1.7	2.1	1.5	1.4	1.7	1.7	0.0
	19-22	2.5	2.8	1.1	1.4	0.7	1.3	0.5	0.7	0.7	0.3	0.7	+0.4
	23-26					*0.7*	*0.9*	*1.7*	*0.8*	*0.6*	*0.3*	*1.1*	*+0.8*
	27-30									0.7	0.4	0.6	+0.2
Tranquilizers													
% saying not at all	18	70.9	71.0	73.4	76.5	76.9	76.6	80.4	81.6	81.8	84.9	83.7	−1.2
	19-22	70.4	73.1	71.5	80.5	78.8	80.5	83.6	81.5	86.2	88.0	87.3	−0.7
	23-26					*76.9*	*79.0*	*83.1*	*84.1*	*86.6*	*87.1*	*88.0*	*+0.9*
	27-30									85.0	88.4	88.9	+0.5
% saying often	18	3.2	4.2	3.5	2.9	2.9	2.2	2.5	2.6	2.2	2.1	1.9	−0.2
	19-22	3.2	2.6	1.8	2.1	1.5	1.7	0.9	1.1	1.8	1.0	1.1	+0.1
	23-26					*2.0*	*1.6*	*2.6*	*1.8*	*1.2*	*0.8*	*0.5*	*−0.3*
	27-30									1.4	0.3	1.7	+1.4s
Alcoholic beverages													
% saying not at all	18	5.3	6.0	6.0	6.0	6.0	6.0	5.9	6.1	6.9	7.7	6.4	−1.3
	19-22	5.7	6.2	5.5	6.6	5.8	7.3	6.4	5.6	7.5	8.2	7.6	−0.6
	23-26					*9.7*	*7.3*	*8.6*	*9.4*	*8.9*	*7.1*	*8.7*	*+1.6*
	27-30									12.9	11.6	13.8	+2.2
% saying often	18	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	56.4	55.5	56.1	+0.6
	19-22	59.6	61.2	62.5	56.6	59.3	61.8	59.9	61.4	55.4	53.8	56.0	+2.2
	23-26					*52.1*	*54.8*	*51.4*	*53.0*	*48.1*	*50.9*	*49.7*	*−1.2*
	27-30									39.9	39.5	38.7	−0.8
Approx. Wtd. N =	18	3259	3608	3645	3334	3238	3252	3078	3296	3300	2795	2556	
	19-22	582	574	601	569	578	549	591	582	556	567	567	
	23-26					*533*	*532*	*557*	*529*	*531*	*514*	*523*	
	27-30									522	507	506	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a]These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all drugs listed except alcohol.

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PERCEIVED AVAILABILITY OF DRUGS

Young adults participating in the follow-up survey receive identical questions to those asked of seniors about how difficult they think it would be to get each of the various drugs if they wanted them. The questions are contained in only one of the six questionnaire forms, yielding a weighted sample size for each four-year age band of 500 to 600 cases. The data for the follow-up samples are presented in Table 47, along with the data for the seniors.

Perceived Availability for Young Adults in 1990

- In general, the proportions of young adults in the follow-up age bands who say it would be "fairly easy" or "very easy" to get various of the illicit drugs are highly similar to the proportions of seniors reporting such easy access. This is true for ***marijuana***, ***other psychedelics***, ***heroin***, ***other opiates***, ***amphetamines***, and ***barbiturates***.

- The major exceptions include ***cocaine***, which shows easier access to the drug for young adults than for high school seniors: 55% of seniors, 62% of 19 to 22 year olds, 66% of 23 to 26 year olds, and 64% of 27 to 30 year olds. Note, however, the high level of availability of this dangerous drug to all these age groups. Even ***crack*** cocaine is seen as available by 42% to 47% of each age group.

- ***Tranquilizers*** show an increase in availability with age, while ***LSD*** is easier for the seniors and 19 to 22 year olds to get than for the two older groups.

- ***Marijuana*** is almost universally available to these age groups, while ***amphetamines*** and ***cocaine*** are seen as available by the majority. ***Barbiturates*** and ***tranquilizers*** are seen as available by nearly half.

- ***Alcohol*** and ***cigarettes*** are assumed to be available to virtually all young adults in these three age groups, so questions were not even included for these two drugs.

Trends in Perceived Availability for Young Adults

- The major trends in the perceived availability of these drugs to young adults parallel those shown for seniors. ***Marijuana*** has been virtually universally available to all these age groups throughout the historical periods covered by the available data. There has been a slight decrease (of 5%) among seniors since the peak year of 1979, and a slightly larger decrease (of 9%) since 1980 among 19 to 22 year olds, so that now perceived availability is essentially the same for all four groups (83 to 86% think it would be "fairly easy" or "very easy" to get marijuana).

- ***Cocaine*** availability, on the other hand, had been moving up among all three age groups over the 1985 to 1987 intervals, reaching historic highs in 1987. (Recall that seniors showed a rise in availability in earlier years—from 1975 to 1980—followed by a leveling between 1980 and 1985. Availability appeared to be level during the same latter period among young adults.) It is noteworthy that perceived availability of cocaine increased in all three age bands in 1987—the same year that use actually dropped sharply. Between 1988 and 1989, the two younger age strata (age 18 and 19 to 22) were still increasing, while the two older were beginning to decrease in the proportion who believed cocaine to be easily available. In 1990, all four groups reported decreased availability.

- It appears that ***crack*** availability may have increased between 1987 and 1989, but began to decline by 1990.

- The trends in ***LSD*** availability among young adults have also been fairly parallel to those for seniors. Among seniors there was a drop of about 10% in the mid 1970's and a later drop in the interval 1980 to 1986. The latter drop, at least, is paralleled in the data for 19 to 22 year olds. Between 1986 and 1990, availability increased among seniors and the 19 to 22 year olds. (There are no clear trends for the two oldest age groups in recent years, which may reflect their very low levels of use of this drug.)

- ***Other hallucinogens*** taken as a group had shown a continuing decline from 1980 to 1986 among seniors, the 19 to 22 year olds, and the 23 to 26 year olds (at least during the 1984 to 1986 interval for which data are available). Like LSD, availability has increased a bit since then for each group.

- ***Heroin*** availability varied within a fairly narrow range from 1980 to 1986, but since then has shown a fair increase in all age groups.

- The availability of ***opiates other than heroin*** has slowly risen among seniors but remained quite stable over the life of the study in all three older age groups until 1987. Since then there has been some very modest increase in all age groups.

- The reported availability of ***amphetamines*** peaked in 1982 for both seniors and 19 to 22 year olds and has been declining gradually since, having fallen by 10% among seniors and 14% among the 19 to 22 year olds. More recently there is some evidence of a decline among the 23 to 26 year olds, as well. All age groups showed a decline in 1990.

- ***Barbiturates*** have also shown a decline since about 1981 or 1982 in the two younger groups (by 9% among seniors and 17% among 19 to 22 year olds), and since 1984 (when data were first available) for 23 to 26 year olds.

TABLE 47

Trends in Reported Availability of Drugs

Young Adults in Modal Age Groups of 18, 19-22, 23-26, and 27-30

Q. *How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?*	Age Group	Percentage saying "fairly easy" or "very easy"[a]											'89–'90 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
Marijuana	18	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	85.0	84.3	84.4	+0.1
	19-22	95.6	91.1	92.4	89.7	88.3	89.5	87.2	85.9	87.1	87.1	86.2	−0.9
	23-26					*92.5*	*86.8*	*88.8*	*90.3*	*86.9*	*88.7*	*83.3*	*−5.4s*
	27-30									89.3	86.0	83.1	−2.9
Amyl & Butyl Nitrites	18	NA	NA	NA	NA	NA	NA	NA	23.9	25.9	26.8	24.4	−2.4
	19-22					NA	NA	NA	22.8	26.0	NA	NA	NA
	23-26								*23.1*	*28.0*	*NA*	*NA*	*NA*
	27-30									26.7	NA	NA	NA
LSD	18	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	33.3	36.3	40.7	+2.4
	19-22	39.6	38.4	35.1	31.8	32.7	29.6	30.5	29.9	33.9	36.4	36.6	+0.2
	23-26					*32.7*	*29.1*	*30.0*	*27.5*	*32.7*	*32.6*	*30.2*	*−2.4*
	27-30									29.4	29.9	32.3	+2.4
PCP	18	NA	NA	NA	NA	NA	NA	NA	22.8	24.9	28.9	27.7	−1.2
	19-22					NA	NA	NA	21.7	24.6	NA	NA	NA
	23-26								*21.2*	*27.6*	*NA*	*NA*	*NA*
	27-30									24.3	NA	NA	NA
Some other psychedelic	18	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3	+0.1
	19-22	42.1	37.7	33.5	31.0	28.9	28.7	26.3	27.5	28.7	28.1	28.9	+0.8
	23-26					*31.8*	*29.6*	*26.4*	*25.6*	*29.6*	*28.7*	*27.0*	*−1.7*
	27-30									28.6	29.6	30.8	+1.2
Cocaine	18	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	55.0	58.7	54.5	−4.2s
	19-22	55.7	56.2	57.1	55.2	56.2	56.9	60.4	65.0	64.9	66.8	61.7	−5.1
	23-26					*63.7*	*67.2*	*65.8*	*69.0*	*71.7*	*70.0*	*65.6*	*−4.4*
	27-30									68.6	68.2	64.0	−4.2
Crack	18	NA	NA	NA	NA	NA	NA	NA	41.1	42.1	47.0	42.4	−4.6ss
	19-22					NA	NA	NA	41.9	47.3	47.2	46.9	−0.3
	23-26								*44.5*	*53.0*	*49.9*	*46.9*	*−3.0*
	27-30									46.5	46.8	46.8	0.0
Cocaine powder	18	NA	NA	NA	NA	NA	NA	NA	52.9	50.3	53.7	49.0	−4.7ss
	19-22					NA	NA	NA	58.7	60.2	61.7	56.5	−5.2
	23-26								*64.9*	*69.1*	*60.1*	*58.6*	*−1.5*
	27-30									63.5	62.8	57.9	−4.9

(Table continued on next page)

TABLE 47 (Cont.)

Trends in Reported Availability of Drugs

Young Adults in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. *How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?*	Age Group	Percentage saying "fairly easy" or "very easy"[a]											'89–'90 change
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
Heroin	18	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	28.0	31.4	31.9	+0.5
	19–22	18.9	19.4	19.3	16.4	17.2	20.8	21.2	24.4	28.5	31.6	30.7	−0.9
	23–26					*16.6*	*18.1*	*21.0*	*22.3*	*28.4*	*31.2*	*28.1*	*−3.1*
	27–30									23.6	27.4	29.5	+2.1
Some other narcotic (including methadone)	18	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	35.8	38.3	38.1	−0.2
	19–22	32.7	32.4	30.8	31.0	28.7	34.3	32.6	33.8	37.9	37.9	35.6	−2.3
	23–26					*32.8*	*32.1*	*33.6*	*32.2*	*35.9*	*36.4*	*34.7*	*−1.7*
	27–30									31.6	36.2	36.1	−0.1
Amphetamines	18	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	63.9	64.3	59.7	−4.6ss
	19–22	71.7	72.6	73.5	69.7	69.1	69.1	63.1	61.8	61.3	62.2	57.7	−4.5
	23–26					*65.8*	*66.0*	*64.5*	*65.3*	*62.2*	*60.1*	*55.8*	*−4.3*
	27–30									54.3	58.6	55.3	−3.3
Barbiturates	18	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	47.8	48.4	45.9	−2.5
	19–22	59.5	61.1	56.8	54.2	48.1	52.7	46.8	44.6	45.5	47.7	44.2	−3.5
	23–26					*52.7*	*47.7*	*46.4*	*45.9*	*47.4*	*44.8*	*41.6*	*−3.2*
	27–30									43.2	44.5	44.2	−0.3
Tranquilizers	18	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	49.1	45.3	44.7	−0.6
	19–22	67.4	62.8	62.0	62.3	52.5	55.6	52.9	50.3	50.0	49.4	45.4	−4.0
	23–26					*60.2*	*54.3*	*54.1*	*56.3*	*52.8*	*51.4*	*47.8*	*−3.6*
	27–30									55.3	54.4	54.9	+0.5
Approx. Wtd. N =	18	3240	3578	3602	3385	3269	3274	3077	3271	3231	2806	2549	
	19–22	582	601	582	588	559	571	592	581	568	572	571	
	23–26					*540*	*541*	*548*	*539*	*526*	*514*	*532*	
	27–30									519	513	510	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

- Finally, ***tranquilizer*** availability has been declining gradually among seniors since the study first began in 1975 (from 72% in 1975 to 45% in 1990). Since 1980, when data were first available for 19 to 22 year olds, availability has been declining more sharply and from a higher level than among seniors, such that previous differences between them in availability have been just about eliminated. Some decrease since 1984 among the 23 to 26 year olds has also helped to diminish the differences in availability among the three age groups.

COLLEGE STUDENTS

Chapter 18

PREVALENCE OF DRUG USE AMONG COLLEGE STUDENTS

The follow-up design of the Monitoring the Future project is capable of generating an excellent national sample of college students—better in many ways than the more typical design which first samples colleges and then samples students within them, because in the present sample the students are not clustered in a limited number of colleges. Given the much greater diversity in post-secondary institutions than in high schools, the use of a clustered sample would place far greater limitations on sample accuracy at the college level than at the high school level. (Note that the absence of dropouts in the high school senior sample should have practically no effect on the college sample, since very few of the dropouts would go on to college.)

Perhaps the major limitation of the present design for the purpose of characterizing college students is that it limits the age range of the college sample. For trend estimation purposes, we have decided to limit the age band to the most typical one for college attendance, i.e., one to four years past high school, which corresponds to the modal ages of 19 to 22 years old. According to statistics from the United States Bureau of the Census,[14] this age band should encompass about 79% of all undergraduate college students enrolled full-time in 1989. Although extending the age band to be covered by an additional two years would cover 86% of all enrolled college students, it would also reduce by two years the interval over which we could report trend data. Some special analyses conducted earlier indicated that the differences in prevalence estimates under the two definitions were extremely small. The annual prevalence of all drugs except cocaine would shift only about one- or two-tenths of a percent, based on comparisons made in 1985. Cocaine, which has the greatest amount of age-related change, would have had an annual prevalence rate only 0.8% higher if the six-year age span were covered rather than the four-year age span. Thus, for purposes of estimating all prevalence rates except lifetime prevalence, the four-year and six-year intervals are nearly interchangeable.

On the positive side, controlling the age band may be desirable for trend estimation purposes, because it controls for the possibility that the age composition of college students changes much with time. Otherwise, college students characterized in one year would represent a noncomparable segment of the population when compared to college students surveyed in another year.

College students are here defined as those follow-up respondents one to four years past high school who say they were registered as full-time students at the beginning of March in the year in question ***and*** *who say they are enrolled in a two- or four-year college.* Thus, the

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[14]U.S. Bureau of the Census. [Telephone communication]. *Current population reports: Population characteristics, Series P-20, No. 400.* Washington, DC: U.S. Government Printing Office, publication pending.

definition encompasses only those who are one to four years past high school and are active full-time undergraduate college students in the year in question. It excludes those who previously may have been college students or may have completed college.

Prevalence rates for college students and their same-age peers are provided in Tables 48 to 52. Having statistics for both groups makes it possible to see whether college students are above or below their age peers in terms of their usage rates. (The college-enrolled sample now constitutes nearly half (48%) of the entire follow-up sample one to four years past high school.) Any difference between the two groups would likely be enlarged if data from the missing high school dropout segment were available for inclusion as part of the noncollege segment; therefore, any differences observed here are only an indication of the direction and relative size of differences between the college and the entire noncollege-enrolled populations, not an absolute estimate of them.

PREVALENCE OF DRUG USE IN 1990: COLLEGE STUDENTS

- For most drugs, use among college students now tends to be lower than among their age-peers, but the degree of difference varies considerably by drug as Tables 48 through 52 show.

- There is very little difference between those enrolled in college vs. their fellow high school graduates of the same age (that is, one to four years past high school), in their annual prevalence of an overall index of ***any illicit drug use*** (33% vs. 32%, respectively). However, college students are significantly lower in their use of ***any illicit drug other than marijuana*** (15% vs. 18%). In fact, for almost all the individual illicit drugs except ***marijuana***, ***MDMA***, or ***inhalants***, use among college students is lower than among their age peers. The overall index of use shows slightly higher use among college students because marijuana is an exception to the general rule.

- Annual ***marijuana*** use is slightly higher among college students compared to their fellow high school graduates of the same age (that is, one to four years past high school), with prevalences of 29% vs. 27%, respectively. However, their rate of current ***daily marijuana use*** is lower, 1.7% vs. 3.0%.

- ***Stimulants*** show the largest absolute difference in annual prevalence among the illicit drugs, 4.5% for college students vs. 7.4% for those not in college.

- The next largest absolute difference after ***stimulants***, occurs for ***cocaine***, with 5.6% of the college students vs. 8.4% of the others reporting use in the past year. Annual use of ***crack*** cocaine is distinctly lower among college students than among their "noncollege" age-peers, at 0.6% vs. 1.8%, respectively.

- College students are slightly below their noncollege age peers in annual usage rates for ***LSD*** (4.3% vs. 5.0%), ***barbiturates*** (1.4% vs. 2.0%), ***opiates other than heroin*** (2.9% vs. 3.7%), and ***tranquilizers*** (3.0% vs. 3.4%).

- ***Ice*** is used almost exclusively by those 19–22 year olds not in college (0.8% vs. 0.1%).

- Both groups give equally low levels of self-reported use of ***heroin*** (0.1% during the past year).

- Use of ***MDMA ("ecstasy")*** is slightly, but not significantly, higher among college students than among their noncollege age peers: annual prevalence is 2.3% vs. 1.9%.

- The annual prevalence for ***inhalants*** is slightly higher among the respondents in college full time, at 3.9% vs. 2.6% of the noncollege respondents.

- Regarding ***alcohol*** use, today's college students have slightly higher annual prevalence compared to their age peers (89% vs. 86%), a higher monthly prevalence (75% vs. 66%), but a slightly lower daily prevalence (3.8% vs. 4.9%). The most important difference, however, lies in the prevalence of ***occasions of heavy drinking*** (five or more drinks in a row in the past two weeks), which is 41% among college students, vs. 33% among their age peers. (As noted in the next section, this difference appears primarily because heavy drinking is relatively low among noncollege females.) In sum, college students participate in more of what is probably heavy weekend drinking, even though they are a little less likely to drink on a daily basis.

- By far the largest difference between college students and others their age occurs for ***cigarette smoking***. For example, their prevalence of daily smoking is only 12% vs. 27% for high school graduates that age who are currently not in college full-time. Smoking at the rate of half-pack a day stands at 8% vs. 20% for these two groups, respectively. Recall that the high school senior data show the college-bound to have much lower smoking rates in high school than the noncollege-bound: thus these substantial differences observed at college age actually preceded college attendance.[15]

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[15]See also Bachman, J.G., O'Malley, P.M., and Johnston, L.D. (1984). Drug use among young adults: The impacts of role status and social environments. *Journal of Personality and Social Psychology, 47*, 629–645.

SEX DIFFERENCES IN PREVALENCE AMONG COLLEGE STUDENTS

Tabular data are provided separately for male and female college students, and their same age-peers, in Tables 48 to 52.

- It may be seen that most of the sex differences among college students replicate those discussed earlier for all young adults (one to twelve years past high school), which in turn replicated sex differences in high school for the most part. That means that among college students, males have higher annual prevalence rates for most drugs, with the largest proportional differences for ***LSD*** (6.8% vs. 2.2%), ***inhalants*** (5.7% vs. 2.5%), ***"crack" cocaine*** (0.9% vs. 0.4%), ***hallucinogens*** in general (7.7% vs. 3.6%), ***MDMA*** (3.2% vs. 1.7%), ***cocaine*** in general (6.9% vs. 4.6%), ***barbiturates*** (1.6% vs. 1.3%), ***marijuana*** (32.4% vs. 27.1%), and ***opiates other than heroin*** (3.1% vs. 2.7%).

- However, there has been no consistent sex difference for ***tranquilizers*** over past years. Annual prevalence stood at about 3% for both sexes in 1990.

- Among college students, females showed about the same prevalence for ***stimulants*** (4.3%) as did their male counterparts (4.7%).

- As is true for the entire young adult sample, substantial sex differences are to be found in ***daily marijuana use*** (2.7% for males vs. 0.9% for females).

- ***Ecstasy*** or MDMA shows higher use among male than among female college students (3.2% vs. 1.7%).

- ***Ice*** was added to the study in 1990. It is more likely to be used by 19–22 year olds not in college, and among them, males are twice as likely to use as females. Among college students, equally small percentages of each sex use the drug.

- For ***alcohol***, annual prevalence is about the same for male and female college students (88% vs. 90%), but males are higher on thirty-day prevalence (77% vs. 72%), daily drinking (5.8% vs 2.2%), and occasional heavy drinking (50% vs. 34%).

  Among males, taking five or more drinks in a row occurs nearly as often for the noncollege group (46%) as for the full-time students (50%); however, among females the difference is more pronounced (24% and 34%, respectively). Earlier analyses have shown that such drinking tends to decline among those who marry, and tends to increase among the unmarried who leave the parental home. Those analyses have also shown that the changes in drinking associated with college attendance are mainly explainable in terms

TABLE 48

Lifetime Prevalence[d] for Various Types of Drugs, 1990: Full-Time College Students vs. Others

Among Respondents 1–4 Years Beyond High School

(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[f]	54.0	59.2	52.5	58.7	55.1	59.6
Any Illicit Drug[f] Other than Marijuana	28.4	36.9	26.2	37.4	30.1	36.6
Marijuana	49.1	54.5	49.6	54.5	48.8	54.5
Inhalants[e]	13.9	13.3	17.3	18.3	11.4	9.3
Hallucinogens	11.2	14.4	13.6	18.7	9.2	11.2
LSD	9.1	13.2	11.8	16.9	6.9	10.4
Cocaine	11.4	18.3	11.6	20.2	11.2	16.8
Crack	1.4	5.1	2.0	6.5	1.0	4.1
MDMA[g]	3.9	3.3	5.1	3.6	3.0	3.0
Heroin	0.3	0.9	0.3	1.2	0.2	0.7
Other opiates[b]	6.8	8.7	7.0	8.9	6.7	8.6
Stimulants, Adjusted[b,c]	13.2	22.0	11.9	21.8	14.2	22.2
Crystal Methamphetamine ("Ice")[g]	1.0	2.9	1.1	3.9	1.0	2.1
Barbiturates[b]	3.8	6.8	3.4	8.4	4.1	5.6
Tranquilizers[b]	7.1	9.5	5.9	9.6	8.0	9.5
Alcohol	93.1	92.9	92.8	92.4	93.3	93.2
Cigarettes	NA	NA	NA	NA	NA	NA
Approx. Wtd. N =	(1400)	(1490)	(620)	(640)	(780)	(850)

NOTE: NA indicates data not available.

[b] Only drug use that was not under a doctor's orders is included here.

[c] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[d] Data are uncorrected for cross-time inconsistencies in the answers.

[e] This drug was asked about in five of the six questionnaire forms. Total N for college students in 1990 is 1160.

[f] Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders.

[g] This drug was asked about in two of the six questionnaire forms. Total N for college students in 1990 is 520.

TABLE 49

Annual Prevalence for Various Types of Drugs, 1990: Full-Time College Students vs. Others

Among Respondents 1–4 Years Beyond High School

(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[e]	33.3	31.6	34.2	32.8	32.5	30.6
Any Illicit Drug[e] Other than Marijuana	15.2	18.3	15.7	21.3	14.8	16.1
Marijuana	29.4	27.1	32.4	29.3	27.1	25.4
Inhalants[d]	3.9	2.6	5.7	3.0	2.5	2.3
Hallucinogens	5.4	5.9	7.7	9.2	3.6	3.5
LSD	4.3	5.0	6.8	7.7	2.2	3.0
Cocaine	5.6	8.4	6.9	10.8	4.6	6.5
Crack	0.6	1.8	0.9	2.7	0.4	1.2
MDMA[a]	2.3	1.9	3.2	3.1	1.7	0.9
Heroin	0.1	0.1	0.1	0.2	0.0	0.1
Other opiates[b]	2.9	3.7	3.1	4.2	2.7	3.3
Stimulants, Adjusted[b,c]	4.5	7.4	4.7	8.6	4.3	6.6
Crystal Methamphetamine ("Ice")[a]	0.1	0.8	0.0	1.2	0.1	0.5
Barbiturates[b]	1.4	2.0	1.6	2.8	1.3	1.4
Tranquilizers[b]	3.0	3.4	2.8	4.1	3.2	2.9
Alcohol	89.0	86.2	87.8	87.5	90.0	85.1
Cigarettes	35.5	44.5	32.6	41.0	37.8	47.0
Approx. Wtd. N =	(1400)	(1490)	(620)	(640)	(780)	(850)

NOTE: NA indicates data not available.

[a]This drug was asked about in two of the five questionnaire forms. Total N for college students in 1990 is 520.

[b]Only drug use that was not under a doctor's orders is included here.

[c]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[d]This drug was asked about in four of the five questionnaire forms. Total N for college students in 1990 is 1160.

[e]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, sedatives, or tranquilizers not under a doctor's orders.

TABLE 50

Thirty-Day Prevalence for Various Types of Drugs, 1990: Full-Time College Students vs. Others

Among Respondents 1–4 Years Beyond High School

(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[e]	15.2	17.0	18.2	19.4	12.7	15.2
Any Illicit Drug[e] Other than Marijuana	4.4	7.0	4.9	8.9	4.0	5.6
Marijuana	14.0	15.3	17.6	17.9	11.0	13.3
Inhalants[d]	1.0	0.5	1.9	0.6	0.3	0.4
Hallucinogens	1.4	1.5	2.1	2.9	1.0	0.5
LSD	1.1	1.1	1.9	2.1	0.4	0.4
Cocaine	1.2	2.0	1.3	3.0	1.1	1.3
Crack	0.1	0.4	0.1	0.5	0.2	0.3
MDMA[a]	0.6	0.2	1.2	0.4	0.0	0.0
Heroin	0.0	0.1	0.0	0.1	0.0	0.0
Other opiates[b]	0.5	1.0	0.4	0.8	0.5	1.2
Stimulants, Adjusted[b,c]	1.4	2.5	1.5	3.0	1.3	2.2
Crystal Methamphetamine ("Ice")[a]	0.0	0.2	0.0	0.0	0.0	0.4
Barbiturates[b]	0.2	0.8	0.5	1.1	0.0	0.5
Tranquilizers[b]	0.5	1.2	0.5	1.0	0.6	1.3
Alcohol	74.5	66.2	77.1	72.1	72.4	61.7
Cigarettes	21.5	33.6	19.9	31.0	22.7	35.5
Approx. Wtd. N =	(1400)	(1490)	(620)	(640)	(780)	(850)

NOTE: NA indicates data not available.

[a]This drug was asked about in two of the five questionnaire forms. Total N for college students in 1990 is 520.

[b]Only drug use that was not under a doctor's orders is included here.

[c]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[d]This drug was asked about in four of the five questionnaire forms. Total N for college students in 1990 is 1160.

[e]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, sedatives, or tranquilizers not under a doctor's orders.

TABLE 51

Thirty-Day Prevalence of Daily Use for Marijuana, Cocaine, Stimulants, Alcohol, and Cigarettes, 1990: Full-Time College Students vs. Others

Among Respondents 1–4 Years Beyond High School

(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	1.7	3.0	2.7	5.3	0.9	1.3
Cocaine	0.0	0.1	0.0	0.2	0.0	0.0
Stimulants, Adjusted[a,b]	0.0	0.1	0.0	0.2	0.0	0.0
Alcohol						
Daily	3.8	4.9	5.8	7.3	2.2	3.2
5+ drinks in a row in past 2 weeks	41.0	33.3	49.9	45.5	33.9	23.9
Cigarettes						
Daily (any)	12.1	26.5	10.1	24.9	13.8	27.7
Half-pack or more per day	8.2	20.3	7.0	21.2	9.2	19.7
Approx. Wtd. N =	(1400)	(1490)	(620)	(640)	(780)	(850)

NOTE: The illicit drugs not listed here showed a daily prevalence of less than 0.05% in all groups.

[a]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[b]Only drug use that was not under a doctor's orders is included here.

TABLE 52

Lifetime[a], Annual and Thirty-Day Prevalence of an Illicit Drug Use Index, 1990: Full-Time College Students vs. Others
Among Respondents 1–4 Years Beyond High School
(Entries are percentages)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
	Percent reporting use in lifetime					
Any Illicit Drug[b]	54.0	59.2	52.5	58.7	55.1	59.6
Any Illicit Drug Other than Marijuana	28.4	36.9	26.2	37.4	30.1	36.6
	Percent reporting use in last twelve months					
Any Illicit Drug	33.3	31.6	34.2	32.8	32.5	30.6
Any Illicit Drug Other than Marijuana	15.2	18.3	15.7	21.3	14.8	16.1
	Percent reporting use in last thirty days					
Any Illicit Drug	15.2	17.0	18.2	19.4	12.7	15.2
Any Illicit Drug Other than Marijuana	4.4	7.0	4.9	8.9	4.0	5.6
Approx. Wtd. N =	(1400)	(1490)	(620)	(640)	(780)	(850)

[a]Data are uncorrected for cross-time inconsistencies in the answers.

[b]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, sedatives, or tranquilizers not under a doctor's orders.

of marital status and living arrangements.[16] The fact that the college vs. noncollege difference is greater among females than among males is largely attributable to sex differences in age of marriage: in the first four years after high school noncollege females are more likely than noncollege males to marry, whereas very few full-time students (either male or female) tend to marry.

- One other drug-using behavior which has shown a sex difference among college students appreciably different from those observed in the sample of all young adults involves ***cigarette smoking***. While the not-in-college segment of this age group has consistently shown little or no sex difference in smoking rates in recent years, among college students there *has* been a consistent and appreciable sex difference in smoking, with college women more likely to smoke (particularly at lighter levels of use). (A glance ahead at Figure 78 in the next chapter shows the consistent sex difference among college students prior to 1987.) In recent years the differences appears to be narrowing.

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[16]Bachman, J.G., O'Malley, P.M., and Johnston, L.D. (1984). Drug use among young adults: The impacts of role status and social environments. *Journal of Personality and Social Psychology, 47*, 629–645.

Chapter 19

TRENDS IN DRUG USE AMONG COLLEGE STUDENTS

Since the drug-using behaviors of American college students in the late 1960's and early 1970's represented the beginning of what was to become a very broad epidemic of illicit drug use in the general population, it is important to note what has happened to those behaviors among college students in recent years.

In this section we continue to use the same definition of college students: high school graduates one to four years past high school who are enrolled full time in a two-year or four-year college at the beginning of March in the year in question. For comparison purposes trend data are provided on the remaining respondents who are also one to four years past high school. (See Figures 65 through 78.) Because the rate of college enrollment declines steadily with number of years beyond high school, the comparison group is slightly older on the average than the college-enrolled group. However, this should influence the comparisons of the college-enrolled with the other group rather little, since age effects in this age range are rather small.

It should also be remembered that the difference between the enrolled and other group shows the degree to which college students are above or below average for other high school *graduates* in this age band. Were we able to include the high school dropout segment in the "other" calculation, any differences with the college-enrolled likely would be accentuated.

For each year there are approximately 1100–1400 respondents constituting the college student sample (see Table 53 for N's per year) and roughly 1500–1700 respondents constituting the "other" group one to four years past high school. Comparisons of the trends since 1980 in these two groups are given below. (It was not until 1980 that enough follow-up years had accrued to characterize young people one to four years past high school.)

TRENDS IN PREVALENCE 1980–1990: COLLEGE STUDENTS

- The proportion of college students using ***any illicit drug*** in the prior year dropped steadily from 1980 to 1984 (from 56% to 45%), followed by a leveling from 1984 to 1986, and then a significant decline from 45% to 33% between 1986 and 1990. (See Table 54 and Figure 65.) ***Marijuana*** use has shown a similar pattern (see Table 54), and in both cases the trend curves have been almost identical for both college students and those not enrolled in college (see Figures 65 and 67a). They also track closely the trend curves for high school seniors.

TABLE 53

Trends in Lifetime[e] Prevalence of Various Types of Drugs

Among College Students 1–4 Years Beyond High School

	Percent who used in lifetime											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Approx. Wtd. N =	(1040)	(1130)	(1150)	(1170)	(1110)	(1080)	(1190)	(1220)	(1310)	(1300)	(1400)	
Any Illicit Drug[f]	69.4	66.8	64.6	66.9	62.7	65.2	61.8	60.0	58.4	55.6	54.0	−1.6
Any Illicit Drug Other than Marijuana	42.2	41.3	39.6	41.7	38.6	40.0	37.5	35.7	33.4	30.5	28.4	−2.1
Marijuana	65.0	63.3	60.5	63.1	59.0	60.6	57.9	55.8	54.3	51.3	49.1	−2.2
Inhalants[b]	10.2	8.8	10.6	11.0	10.4	10.6	11.0	13.2	12.6	15.0	13.9	−1.1
Hallucinogens	15.0	12.0	15.0	12.2	12.9	11.4	11.2	10.9	10.2	10.7	11.2	+0.5
LSD	10.3	8.5	11.5	8.8	9.4	7.4	7.7	8.0	7.5	7.8	9.1	+1.3
Cocaine	22.0	21.5	22.4	23.1	21.7	22.9	23.3	20.6	15.8	14.6	11.4	−3.2s
Crack[c]	NA	NA	NA	NA	NA	NA	NA	3.3	3.4	2.4	1.4	−1.0
MDMA ("Ecstasy")[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.8	3.9	+0.1
Heroin	0.9	0.6	0.5	0.3	0.5	0.4	0.4	0.6	0.3	0.7	0.3	−0.4
Other Opiates[a]	8.9	8.3	8.1	8.4	8.9	6.3	8.8	7.6	6.3	7.6	6.8	−0.8
Stimulants[a]	29.5	29.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	NA	NA	30.1	27.8	27.8	25.4	22.3	19.8	17.7	14.6	13.2	−1.4
Crystal methamphetamine[h]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA
Sedatives[a]	13.7	14.2	14.1	12.2	10.8	9.3	8.0	6.1	4.7	4.1	NA	NA
Barbiturates[a]	8.1	7.8	8.2	6.6	6.4	4.9	5.4	3.5	3.6	3.2	3.8	+0.6
Methaqualone[a]	10.3	10.4	11.1	9.2	9.0	7.2	5.8	4.1	2.2	2.4	NA	NA
Tranquilizers[a]	15.2	11.4	11.7	10.8	10.8	9.8	10.7	8.7	8.0	8.0	7.1	−0.9
Alcohol	94.3	95.2	95.2	95.0	94.2	95.3	94.9	94.1	94.9	93.7	93.1	−0.6

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms in 1980–89, and in five of the six questionnaire forms in 1990. Total N in 1990 (for college students) is 1160.

[c] This drug was asked about in two of the five questionnaire forms in 1987–89, and in all six questionnaire forms in 1990.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[e] Data are uncorrected for cross-time inconsistencies in the answers.

[f] Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (until 1990), or tranquilizers not under a doctor's orders.

[g] This drug was asked about in two of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990. Total N in 1990 (for college students) is 520.

[h] This drug was asked about in two of the six questionnaire forms. Total N in 1990 (for college students) is 520.

TABLE 54

Trends in Annual Prevalence of Various Types of Drugs

Among College Students 1–4 Years Beyond High School

	Percent who used in last twelve months											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Approx. Wtd. N =	(1040)	(1130)	(1150)	(1170)	(1110)	(1080)	(1190)	(1220)	(1310)	(1300)	(1400)	
Any Illicit Drug[e]	56.2	55.0	49.5	49.8	45.1	46.3	45.0	40.1	37.4	36.7	33.3	−3.4
Any Illicit Drug[e] Other than Marijuana	32.3	31.7	29.9	29.9	27.2	26.7	25.0	21.3	19.2	16.4	15.2	−1.2
Marijuana	51.2	51.3	44.7	45.2	40.7	41.7	40.9	37.0	34.6	33.6	29.4	−4.2s
Inhalants[b]	3.0	2.5	2.5	2.8	2.4	3.1	3.9	3.7	4.1	3.7	3.9	+0.2
Hallucinogens	8.5	7.0	8.7	6.5	6.2	5.0	6.0	5.9	5.3	5.1	5.4	+0.3
LSD	6.0	4.6	6.3	4.3	3.7	2.2	3.9	4.0	3.6	3.4	4.3	+0.9
Cocaine	16.8	16.0	17.2	17.3	16.3	17.3	17.1	13.7	10.0	8.2	5.6	−2.6ss
Crack[c]	NA	NA	NA	NA	NA	NA	1.3	2.0	1.4	1.5	0.6	−0.9s
MDMA ("Ecstasy")[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	2.3	0.0
Heroin	0.4	0.2	0.1	0.0	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.0
Other Opiates[a]	5.1	4.3	3.8	3.8	3.8	2.4	4.0	3.1	3.1	3.2	2.9	−0.3
Stimulants[a]	22.4	22.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	NA	NA	21.1	17.3	15.7	11.9	10.3	7.2	6.2	4.6	4.5	−0.1
Crystal methamphetamine[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	NA
Sedatives[a]	8.3	8.0	8.0	4.5	3.5	2.5	2.6	1.7	1.5	1.0	NA	NA
Barbiturates[a]	2.9	2.8	3.2	2.2	1.9	1.3	2.0	1.2	1.1	1.0	1.4	+0.4
Methaqualone[a]	7.2	6.5	6.6	3.1	2.5	1.4	1.2	0.8	0.5	0.2	NA	NA
Tranquilizers[a]	6.9	4.8	4.7	4.6	3.5	3.6	4.4	3.8	3.1	2.6	3.0	+0.4
Alcohol	90.5	92.5	92.2	91.6	90.0	92.0	91.5	90.9	89.6	89.6	89.0	−0.6
Cigarettes	36.2	37.6	34.3	36.1	33.2	35.0	35.3	38.0	36.6	34.2	35.5	+1.3

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a]Only drug use which was not under a doctor's orders is included here.

[b]This drug was asked about in four of the five questionnaire forms in 1980–89, and in five of the six questionnaire forms in 1990. Total N in 1990 (for college students) is 1160.

[c]This drug was asked about in one of the five questionnaire forms in 1986, in two of the five questionnaire forms in 1987–89, and in all six forms in 1990.

[d]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[e]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (until 1990), or tranquilizers not under a doctor's orders.

[f]This drug was asked about in two of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990. Total N in 1990 (for college students) is 520.

[g]This drug was asked about in two of the six questionnaire forms. Total N in 1990 (for college students) is 520.

TABLE 55

Trends in Thirty-Day Prevalence of Various Types of Drugs

Among College Students 1–4 Years Beyond High School

	Percent who used in last thirty days											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Approx. Wtd. N =	(1040)	(1130)	(1150)	(1170)	(1110)	(1080)	(1190)	(1220)	(1310)	(1300)	(1400)	
Any Illicit Drug[e]	38.4	37.6	31.3	29.3	27.0	26.1	25.9	22.4	18.5	18.2	15.2	−3.0s
Any Illicit Drug[e] Other than Marijuana	20.7	18.6	17.1	13.9	13.8	11.8	11.6	8.8	8.5	6.9	4.4	−2.5ss
Marijuana	34.0	33.2	26.8	26.2	23.0	23.6	22.3	20.3	16.8	16.3	14.0	−2.3
Inhalants[b]	1.5	0.9	0.8	0.7	0.7	1.0	1.1	0.9	1.3	0.8	1.0	+0.2
Hallucinogens	2.7	2.3	2.6	1.8	1.8	1.3	2.2	2.0	1.7	2.3	1.4	−0.9
LSD	1.4	1.4	1.7	0.9	0.8	0.7	1.4	1.4	1.1	1.4	+1.1	−0.3
Cocaine	6.9	7.3	7.9	6.5	7.6	6.9	7.0	4.6	4.2	2.8	1.2	−1.6ss
Crack[c]	NA	NA	NA	NA	NA	NA	NA	0.4	0.5	0.2	0.1	−0.1
MDMA ("Ecstasy")[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	0.6	+0.3
Heroin	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	−0.1
Other Opiates[a]	1.8	1.1	0.9	1.1	1.4	0.7	0.6	0.8	0.8	0.7	0.5	−0.2
Stimulants[a]	13.4	12.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	NA	NA	9.9	7.0	5.5	4.2	3.7	2.3	1.8	1.3	1.4	+0.1
Crystal methamphetamine[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	NA
Sedatives[a]	3.8	3.4	2.5	1.1	1.0	0.7	0.6	0.6	0.6	0.2	NA	NA
Barbiturates[a]	0.9	0.8	1.0	0.5	0.7	0.4	0.6	0.5	0.5	0.2	0.2	0.0
Methaqualone[a]	3.1	3.0	1.9	0.7	0.5	0.3	0.1	0.2	0.1	0.0	NA	NA
Tranquilizers[a]	2.0	1.4	1.4	1.2	1.1	1.4	1.9	1.0	1.1	0.8	0.5	−0.3
Alcohol	81.8	81.9	82.8	80.3	79.1	80.3	79.7	78.4	77.0	76.2	74.5	−1.7
Cigarettes	25.8	25.9	24.4	24.7	21.5	22.4	22.4	24.0	22.6	21.1	21.5	+0.4

NOTES: Level of significance of difference between the two most recent years:
s = .05. ss = .01, sss = .001.
NA indicates data not available.

[a]Only drug use which was not under a doctor's orders is included here.

[b]This question was asked in four of the five questionnaire forms in 1980–89, and in five of the six questionnaire forms in 1990. Total N in 1990 (for college students) is 1160.

[c]This question was asked in two of the five questionnaire forms in 1987–89, and in all six questionnaire forms in 1990.

[d]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[e]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (until 1990), or tranquilizers not under a doctor's orders.

[f]This drug was asked about in two of the five questionnaire forms in 1989, and in two of the six questionnaire forms in 1990. Total N in 1990 (for college students) is 520.

[g]This drug was asked about in two of the six questionnaire forms. Total N in 1990 (for college students) is 520.

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TABLE 56

Trends in Thirty-Day Prevalence of Daily Use for Marijuana, Cocaine, Stimulants, Alcohol, and Cigarettes

Among College Students 1–4 Years Beyond High School

	Percent who used daily in last thirty days											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
Approx. Wtd. N =	(1040)	(1130)	(1150)	(1170)	(1110)	(1080)	(1190)	(1220)	(1310)	(1300)	(1400)	
Marijuana	7.2	5.6	4.2	3.8	3.6	3.1	2.1	2.3	1.8	2.6	1.7	−0.9
Cocaine	0.2	0.0	0.3	0.1	0.4	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Stimulants[a]	0.5	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,b]	NA	NA	0.3	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Alcohol												
Daily	6.5	5.5	6.1	6.1	6.6	5.0	4.6	6.0	4.9	4.0	3.8	−0.2
5+ drinks in a row in last 2 weeks	43.9	43.6	44.0	43.1	45.4	44.6	45.0	42.8	43.2	41.7	41.0	−0.7
Cigarettes												
Daily	18.3	17.1	16.2	15.3	14.7	14.2	12.7	13.9	12.4	12.2	12.1	−0.1
Half-pack or more per day	12.7	11.9	10.5	9.6	10.2	9.4	8.3	8.2	7.3	6.7	8.2	+1.5

NOTES: For all drugs not included here, daily use is below 0.5% in all years. Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 57

Trends in Lifetime, Annual, and Thirty-Day Prevalence of An Illicit Drug Use Index

Among College Students 1–4 Years Beyond High School, by Sex

	1980[a]	1981[a]	1982	1983	1984	1985	1986	1987	1988	1989	1990	'89–'90 change
	Percent reporting use in lifetime[b]											
Any Illicit Drug	*69.4*	*66.8*	64.6	66.9	62.7	65.2	61.8	60.0	58.4	55.6	54.0	−1.6
Males	*71.0*	*67.5*	68.1	71.3	66.4	69.8	64.7	63.5	56.0	56.5	52.5	−4.0
Females	*67.5*	*66.3*	61.5	63.0	59.2	61.6	59.4	57.4	60.2	54.9	55.1	+0.2
Any Illicit Drug Other than Marijuana	*42.2*	*41.3*	39.6	41.7	38.6	40.0	37.5	35.7	33.4	30.5	28.4	−2.1
Males	*42.8*	*39.8*	45.1	44.6	40.9	42.1	38.2	37.2	31.8	30.6	26.2	−4.4
Females	*41.6*	*42.6*	34.7	39.2	36.4	38.3	37.0	34.6	34.6	30.4	30.1	−0.3
	Percent reporting use in last twelve months											
Any Illicit Drug	*56.2*	*55.0*	49.5	49.8	45.1	46.3	45.0	40.1	37.4	36.7	33.3	−3.4
Males	*58.9*	*56.2*	54.6	53.4	48.4	50.9	49.8	43.3	37.0	38.2	34.2	−4.0
Females	*53.3*	*54.0*	44.9	46.7	41.9	42.7	41.1	37.7	37.6	35.4	32.5	−2.9
Any Illicit Drug Other than Marijuana	*32.3*	*31.7*	29.9	29.9	27.2	26.7	25.0	21.3	19.2	16.4	15.2	−1.2
Males	*33.7*	*32.8*	33.4	33.5	29.2	29.7	28.6	23.5	19.4	18.7	15.7	−3.0
Females	*31.1*	*30.8*	26.9	26.8	25.2	24.4	22.1	19.6	19.0	14.6	14.8	+0.2
	Percent reporting use in last thirty days											
Any Illicit Drug	*38.4*	*37.6*	31.3	29.3	27.0	26.1	25.9	22.4	18.5	18.2	15.2	−3.0s
Males	*42.9*	*40.6*	37.7	33.8	30.4	29.9	31.0	24.0	18.8	20.0	18.2	−1.8
Females	*34.0*	*34.8*	25.6	25.5	23.7	23.2	21.7	21.1	18.3	16.7	12.7	−4.0s
Any Illicit Drug Other than Marijuana	*20.7*	*18.6*	17.1	13.9	13.8	11.8	11.6	8.8	8.5	6.9	4.4	−2.5ss
Males	*22.8*	*18.6*	20.2	16.0	16.1	12.6	14.4	9.0	8.2	8.0	4.9	−3.1s
Females	*18.7*	*18.5*	14.2	12.1	11.5	11.2	9.3	8.5	8.8	6.0	4.0	−2.0
	Approx. Wtd. N											
All Respondents	1040	1130	1150	1170	1110	1080	1190	1220	1310	1300	1400	
Males	520	530	550	550	540	490	540	520	560	580	620	
Females	520	600	610	620	570	600	650	700	750	720	780	

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.

[a]Revised questions about stimulant use were introduced in 1982 to exclude more completely the inappropriate reporting of nonprescription stimulants. The data in italics are therefore not strictly comparable to the other data.

[b]Data are uncorrected for cross-time inconsistencies in the answers.

- Use of ***any illicit drugs other than marijuana*** declined more steadily between 1980 and 1986 (with annual prevalence among college students dropping gradually from 32% to 25%), but showed an accelerating decline (to 15%) between 1987 and 1990 (Table 54). Again, this parallels the trend for the non-college group (Figure 66).

- Also, for ***most individual classes of drugs***, the trends since 1980 among those enrolled in college tend to parallel those for the non-college group, as well as the trends observed among seniors. That means that for most drugs there has been a decline in use over that time interval.

- In particular, 30-day prevalence of ***marijuana*** smoking among college students decreased steadily and now has dropped by more than half since 1980 (from 34% to 14% in 1990). Their noncollege peers have shown a comparable decline over the same time interval (from 35% to 15%). (See Figure 67a.)

- Daily ***marijuana*** use among college students fell significantly between 1980 and 1986, from 7.2% to 2.1%, as it did for those not in college and as it did among high school seniors. Since then the decline has, almost of necessity, decelerated and perhaps ceased. (The rate stands at 1.7% in 1990.) In sum, the proportion of American college students who are actively smoking marijuana on a daily basis has dropped by more than three-fourths since 1980 (see Figure 67b).

- An appreciable and ongoing decline has occurred for ***stimulant*** use, for which annual prevalence has dropped by more than three-quarters, from 21% in 1982 to 5% in 1990. Proportionately this is a larger drop than among seniors, but is fairly parallel to the overall change among their age-peers not in college (Figure 74).

- ***Methaqualone*** showed a dramatic drop among college students, going from an annual prevalence of 7.2% in 1980 to 0.2% in 1989. Again, this drop has been greater than among high school students, though only slightly greater, and parallels the even greater decline observed among those not in college. There remained practically no college-noncollege difference in methaqualone as both groups approached a 0% prevalence level. (Because of the low levels reported for this drug it was dropped from the questionnaires in 1990 to make room for other questions.)

- Among the other drugs, one of the largest declines observed among college students is for ***LSD***, with annual prevalence falling from 6.3% in 1982 to 2.2% in 1985. However, this figure rose to 3.9% in 1986, a statistically significant increase which was not paralleled in our data for high school seniors, and it has been relatively stable

since (4.3% in 1990). Those young adults not in college full-time have shown parallel trends, as have high school seniors (Figure 70).

- ***Barbiturate*** use was already quite low among college students in 1980 (at 2.9% annual prevalence) but it fell by more than half to 1.3% by 1985. This proportional decline was, once again, more sharp than among high school students, and less sharp than among the young adults not in college. Annual prevalence has remained unchanged since 1985 among college students and their noncollege peers, while use by high school seniors continued to decline through 1988 before levelling. (See Figure 75.)

- Figure 76 shows that the annual prevalence of ***tranquilizer*** use among college students dropped by half in the period 1980–1984, from 6.9% to 3.5%, remained fairly level until 1988, when it declined again (to 3.1%).[17] It remains at 3.0% in 1990. Use in the noncollege segment dropped more sharply in the 1980–84 period, narrowing the difference between the two groups. Then it levelled again between 1985 and 1988, and has declined further to 3.4% in 1990. Recall that tranquilizer use also dropped steadily among seniors, from 10.8% in 1977 to 3.5% in 1990.

- The use of ***opiates other than heroin*** by college students has held fairly steady (2.9% in 1990) after dropping slightly between 1980 and 1982 (annual prevalence fell from 5.1% to 3.8%). This trend parallels quite closely what has been happening for those not in college as well as for the seniors (Figure 73).

- Like the high school seniors, college students showed a relatively stable pattern of ***cocaine*** use between 1980 and 1986, followed by a large decline (from an annual prevalence of 17% to 8%) between 1986 and 1989. Another statistically significant drop (to 5.6%) occurred between 1989 and 1990. This pattern was also followed by those not in college, who decreased their rate of use from 19% in 1986 to 11% in 1989, and to 8.4% in 1990. Use among college students has dropped more sharply than among high school seniors, with the result that there is no longer a difference in their annual prevalence rates for cocaine (Figure 72).

- It is in regard to ***alcohol*** use that college students appear to be showing shifts in use that are different from those observed either among their age peers not in college, or among high school seniors. The noncollege segment and the seniors have shown fairly substantial declines since 1981 in the prevalence of having ***five or more drinks in a row*** during the two weeks prior to the survey. College students, however, have shown less decline (Figure 77c). Between 1981 and 1990 this measure of heavy drinking dropped by 9.2% for

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[17] The use of barbiturates and tranquilizers very likely was dropping during the latter half of the 1970s, judging by the trends among high school seniors.

high school seniors, by 9.9% for the noncollege 19–22 year olds, but by only 2.6% among college students. As a result, the difference between the other two groups on this behavior has widened.

It is interesting to conjecture about why college students have not shown much decline in heavy drinking while their noncollege peers and high school seniors have. One possibility is that campuses have provided some insulation to the effects of changes in the drinking age laws. Also, college students are mixed in with peers who are of legal age to purchase alcohol in a way that is no longer true in high schools or for those 19–22 who are not in college.

On the other hand, college students generally have had slightly lower rates of ***daily drinking*** than their age group taken as a whole (Figure 77b). Daily drinking among the young adults not enrolled in college declined from 8.7% in 1981 to 6.5% in 1984, remained essentially unchanged through 1988, and since then has resumed a decline (to 4.9% in 1990). The daily drinking estimates for college students—which appear a little less stable, perhaps due to smaller sample sizes—showed little or no decline between 1980 and 1984, but some considerable decline since then. (Daily prevalence was 6.5% in 1980, 6.6% in 1984, and 3.8% in 1990.)

- ***Cigarette smoking*** among American college students declined modestly in the first half of the eighties. Thirty-day prevalence fell from 26% to 22% between 1980 and 1985, but has been relatively stable since then (it was 22% in 1990). The ***daily smoking*** rate fell from 18.3% in 1980 to 12.7% in 1986, and has been fairly level since (12.1% in 1990). While the rates of smoking are dramatically lower among college students than among those not in college, their trends have been highly parallel.

  Among high school seniors, the trend line for daily use of cigarettes during the 1980–1986 interval was much less steep. This divergence of trends between high school seniors and college-age graduates has resulted in much less difference in daily usage rates in 1990 between high school seniors (19%) and 19 to 22 year olds (20%) than there was in 1980 (21% vs. 30%). The quite different trends are occurring because of the greater importance of cohort effects than secular trends in determining shifts in smoking behavior. In essence, the earlier decline among seniors showed up a few years later as those same graduating cohorts passed through college.

- In sum, the trends in substance use among American college students generally parallel closely those occurring among their age group as a whole, though there are a few important differences in absolute levels. The major exception occurred for occasions of heavy drinking, which fell off among those not enrolled full-time in college (as well as among high school seniors) but remained fairly constant among college students.

The trends among college students are also highly parallel, for the most part, to the trends among high school seniors, although declines in many drugs over the decade (1980–1990) have been proportionately larger among college students (and for that matter among all young adults of college age) than among seniors. Cigarettes are an exception to the assertion of parallel trends, since the smoking trends are driven primarily by enduring differences among cohorts.

SEX DIFFERENCES IN TRENDS AMONG COLLEGE STUDENTS

One trend which is not obvious from the figures included here is the fact that the proportion of college students who are female has been rising slowly. Females constituted 50% of our 1980 sample of college students, but 56% of our 1990 sample. Given that there exist substantial sex differences in the use of some drugs, we have been concerned that apparent long-term trends in the levels of drug use among college students might actually be attributable to changes in the sex composition of that population. For that reason, in particular, we present separate trend lines for the male and female components of the college student population. Differences in the trends observed for these two groups are illustrated in Figures 65 through 78, and are discussed below:

- In general, trends in the use of the ***various drugs***, and in the overall ***drug use indexes***, have been highly parallel for male and female college students, as an examination of the relevant figures will show. The most noteworthy exceptions are mentioned below.

- After 1986, ***cocaine*** has dropped more steeply for males than for females in general, and among male college students in particular; narrowing the gap between the sexes (see Figure 72).

- Certain other drug use measures have shown a convergence of usage levels between the sexes, mainly because they are converging toward zero. ***Daily marijuana use*** is one such example, with the decline among males between 1980 and 1986 narrowing the gap between the sexes. Since 1986 there has been no further narrowing, however. (In 1990 the rates were 2.7% vs. 0.9%.) See Figure 67b.

- ***Methaqualone*** also showed a convergence in use, with males declining more (no figure given), and ***LSD*** showed such a convergence at least through 1983 (Figure 70). There is evidence, however, that after a big drop among males in LSD use, since 1985 some rebound has taken place, while females' use has been fairly stable. In 1990 6.8% of college males report use in the past year, vs. 2.2% of the females.

- ***Stimulant*** use (Figure 74) also showed a convergence between 1982 (when the revised questions were first introduced) and 1984, due to a greater decline among males. There has been rather little sex difference since.

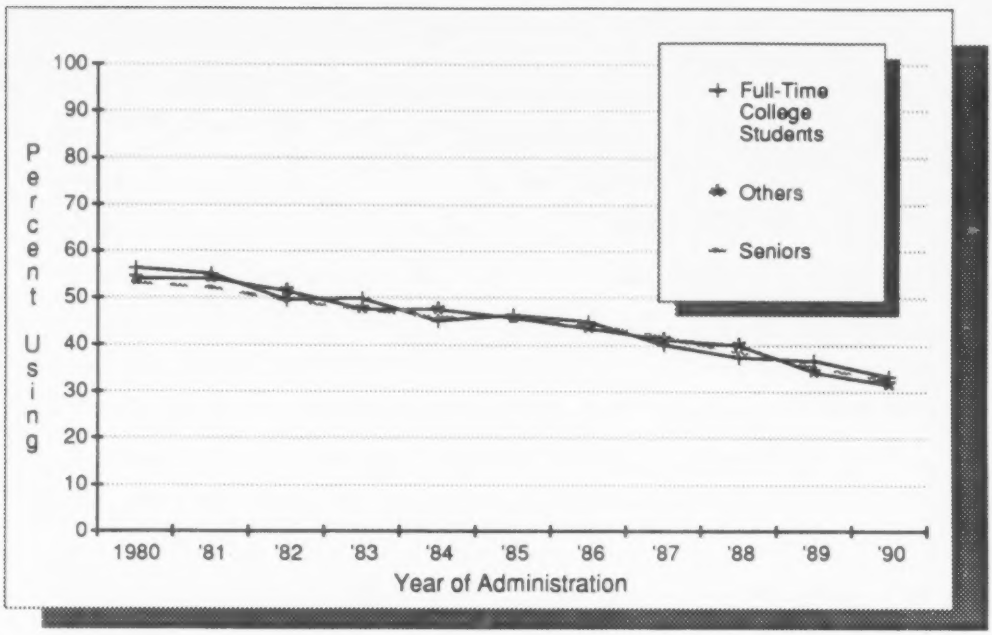
- Regarding ***alcohol*** use (Figure 77a-c), annual prevalence has been virtually identical for the two sexes throughout the period. However, there had been some evidence of a divergence in their 30-day prevalence rates between 1982 and 1984, with females dropping and males rising overall, but more recently they have been converging again. Roughly the same has been true for ***daily*** prevalence. Perhaps most important, however, was the divergence in ***occasions of heavy drinking*** between roughly 1982 to 1984, and then an apparent convergence from 1986 to 1989. Among college males, occasions of heavy drinking clearly became more prevalent (by about 5%) in the 1984–1986 period than they had been at the beginning of the eighties; and, if anything, they became less prevalent among noncollege males (by about 4%). This led to college males overtaking and surpassing noncollege males in occasions of heavy drinking (58% vs. 52%, respectively, in 1986). At the same time the prevalence for college females held steady while for noncollege females it dropped about 3%. The result of these trends was that college students looked more different from the noncollege segment on this measure in the mid-eighties than they did in the early eighties, and they continue to maintain this difference in 1990.

  Note in Figure 77c that there has nearly always been some difference between the college and noncollege groups in occasions of heavy drinking. This is attributable to the noncollege females drinking less than their female counterparts in college (likely due to a larger proportion of them being married). Although the rate of occasional heavy drinking for females in college has held quite steady since 1980, the gap has widened because of the declining rate among the noncollege females.

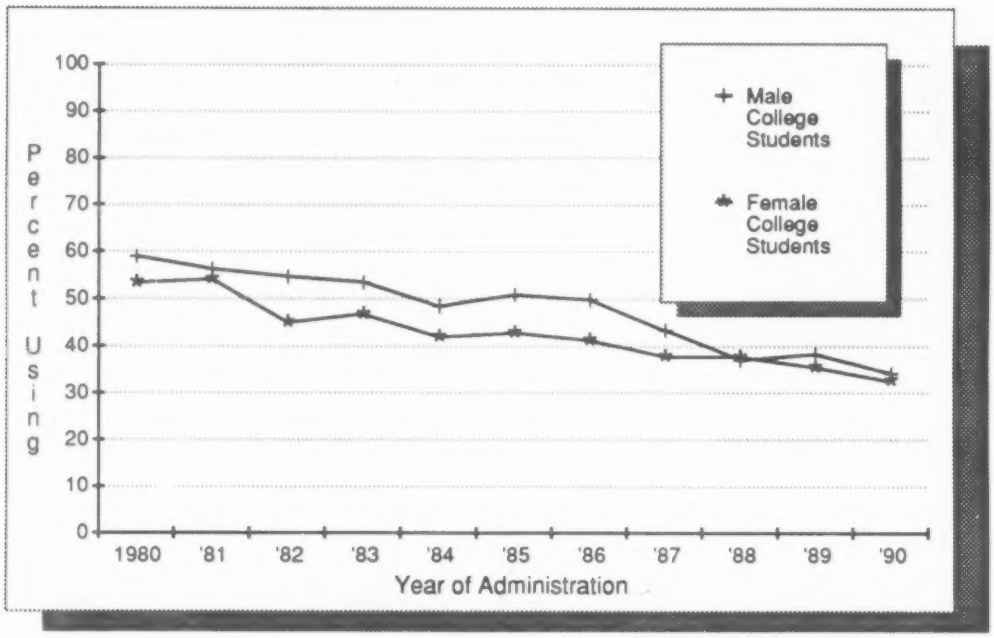
- Between 1980 and 1988 ***cigarette*** smoking has consistently been higher among females than males in college, despite decreases for both sexes during the first half of the decade. The gap between the sexes has narrowed some, however, because smoking by females has declined a bit more.

FIGURE 65

Any Illicit Drug: Trends in Annual Prevalence Among College Students Vs. Others[a]
1-4 Years Beyond High School



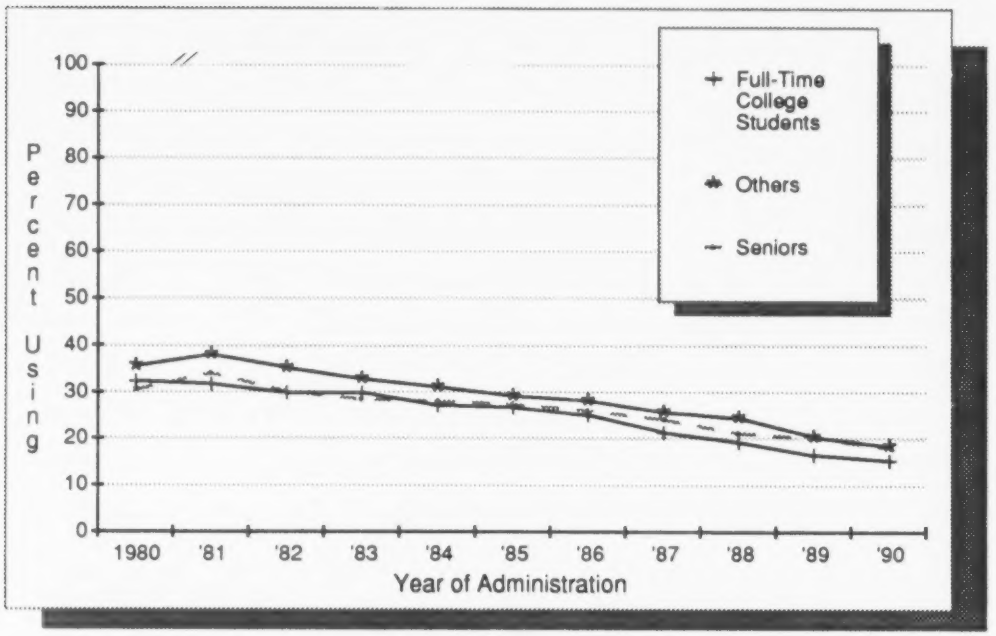
Any Illicit Drug: Trends in Annual Prevalence Among Male and Female College Students



[a]"Others" refers to high school graduates 1-4 years beyond high school not currently enrolled full-time in college.

FIGURE 66

Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among College Students Vs. Others
1-4 Years Beyond High School



Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among Male and Female College Students

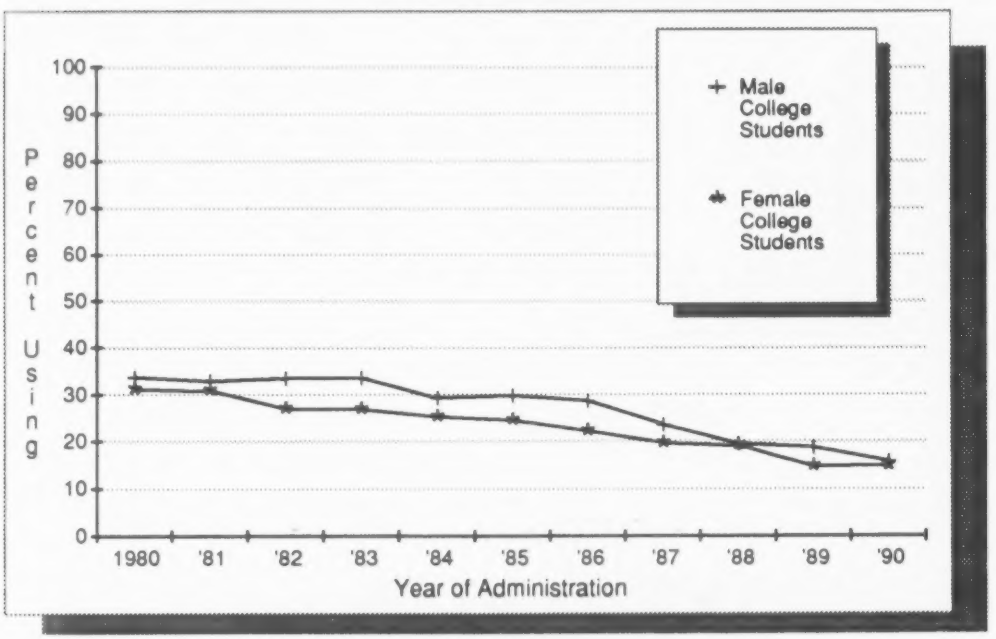
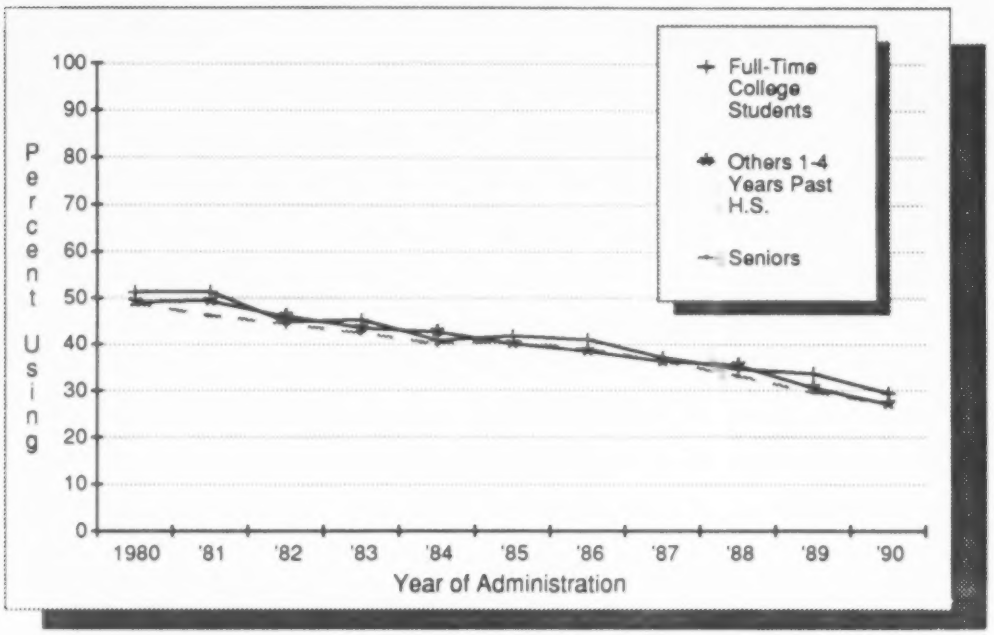


FIGURE 67a

Marijuana: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Marijuana: Trends in Annual Prevalence
Among Male and Female College Students

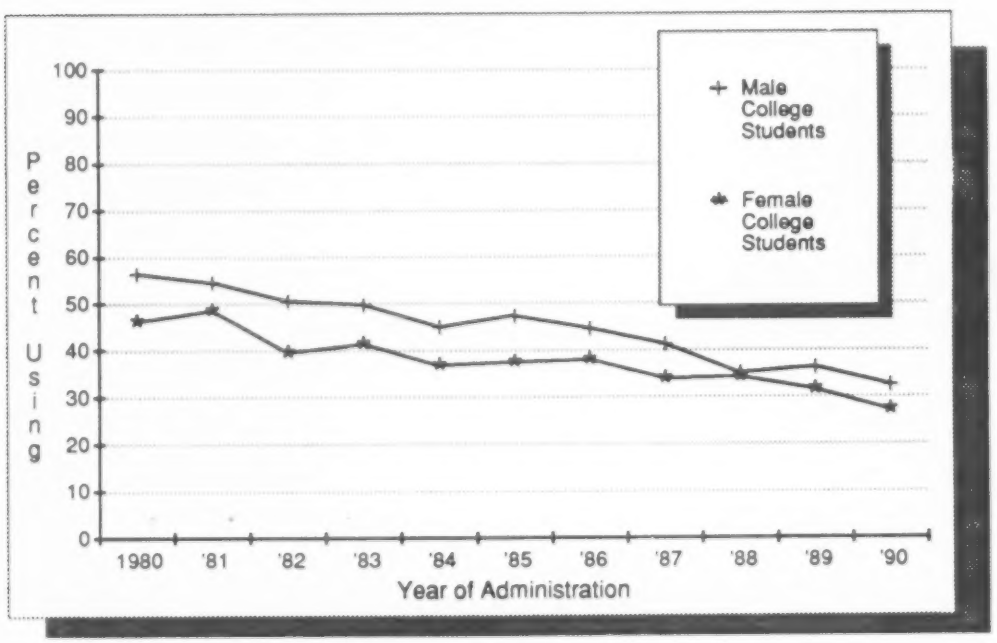
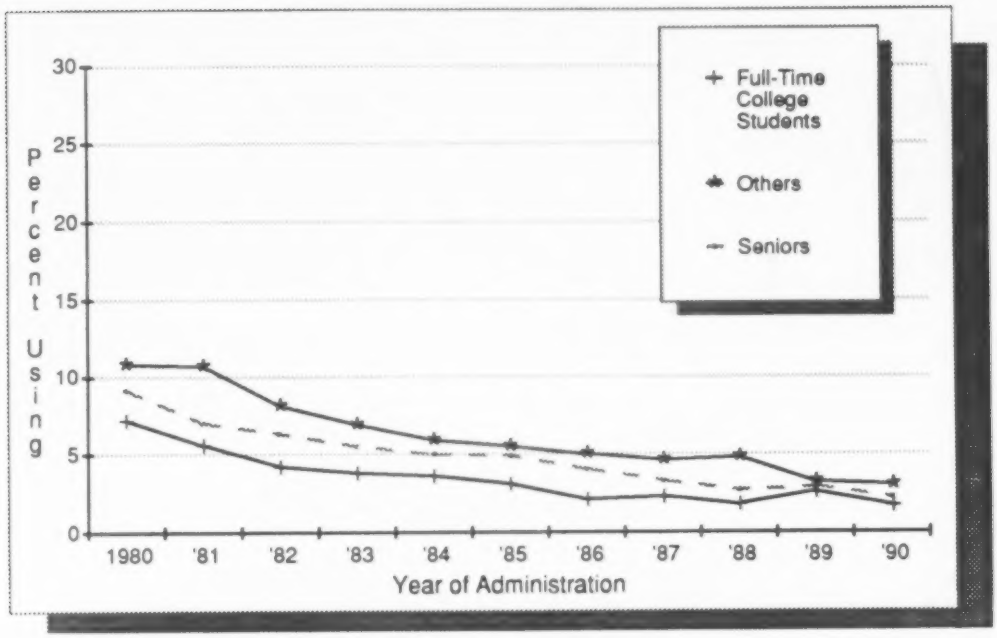


FIGURE 67b

Marijuana: Trends in Thirty-Day Prevalence of Daily Use Among College Students Vs. Others
1-4 Years Beyond High School



Marijuana: Trends in Thirty-Day Prevalence of Daily Use Among Male and Female College Students

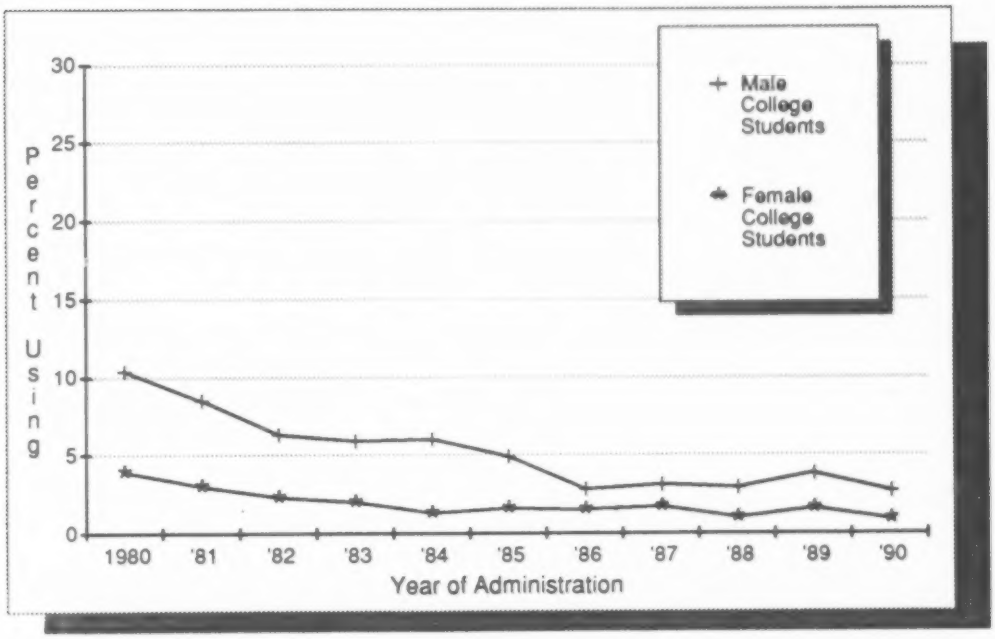
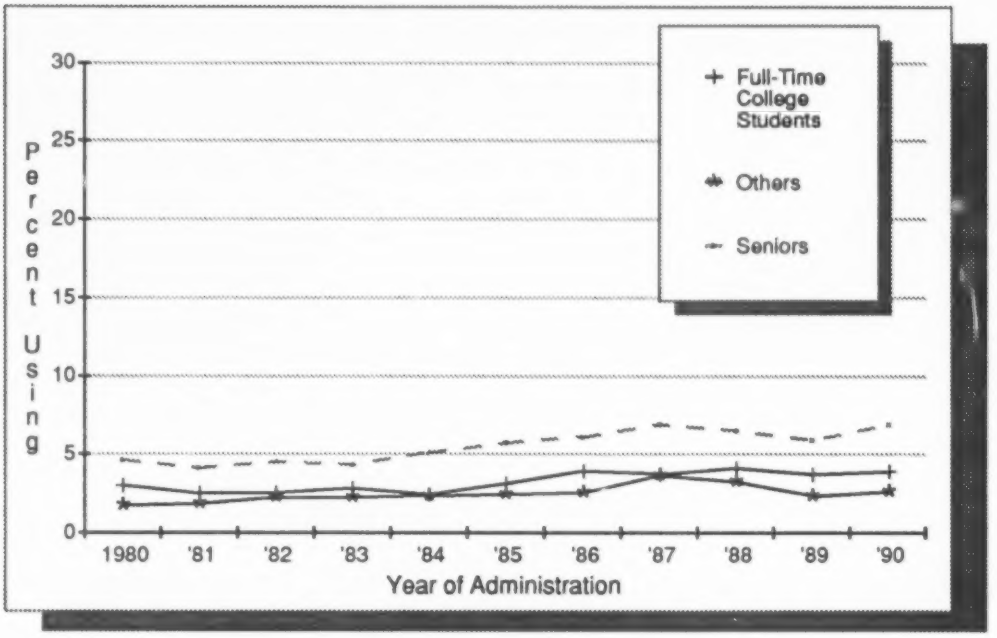
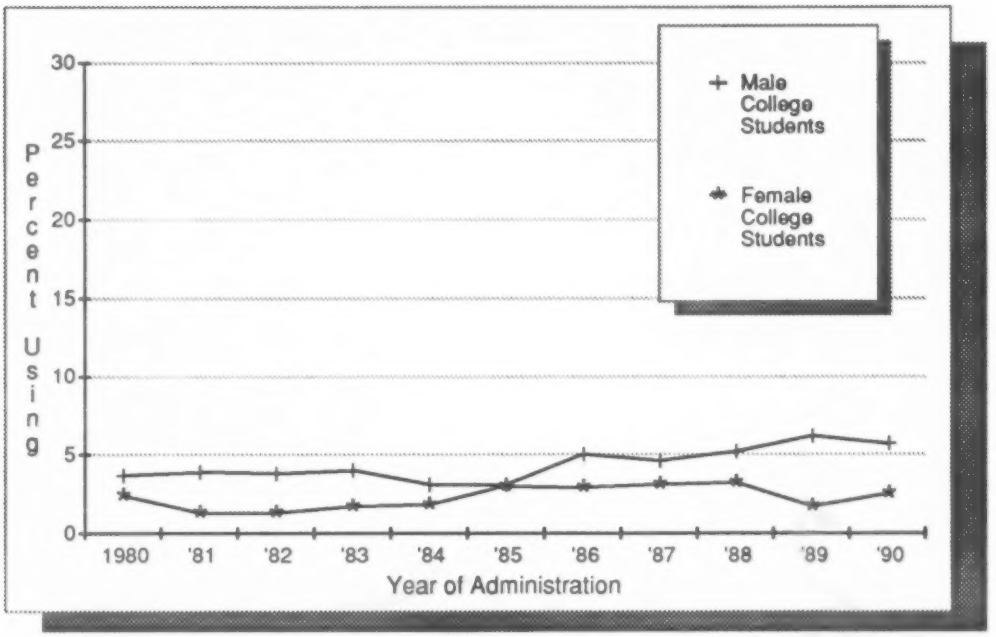


FIGURE 68

Inhalants*: Trends in Annual Prevalence
Among College Students Vs. Others
1–4 Years Beyond High School



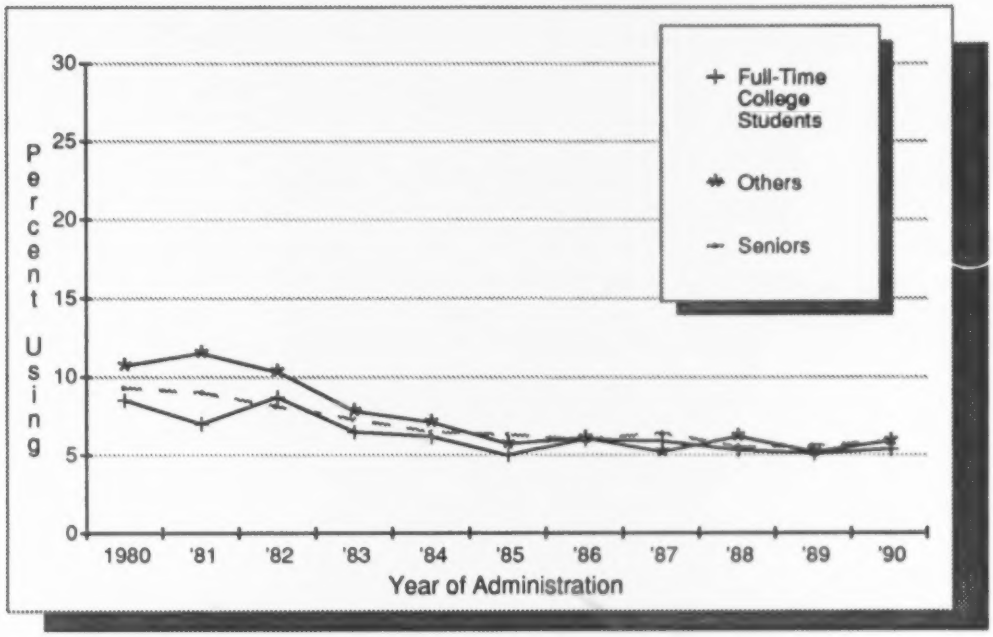
Inhalants*: Trends in Annual Prevalence
Among Male and Female College Students



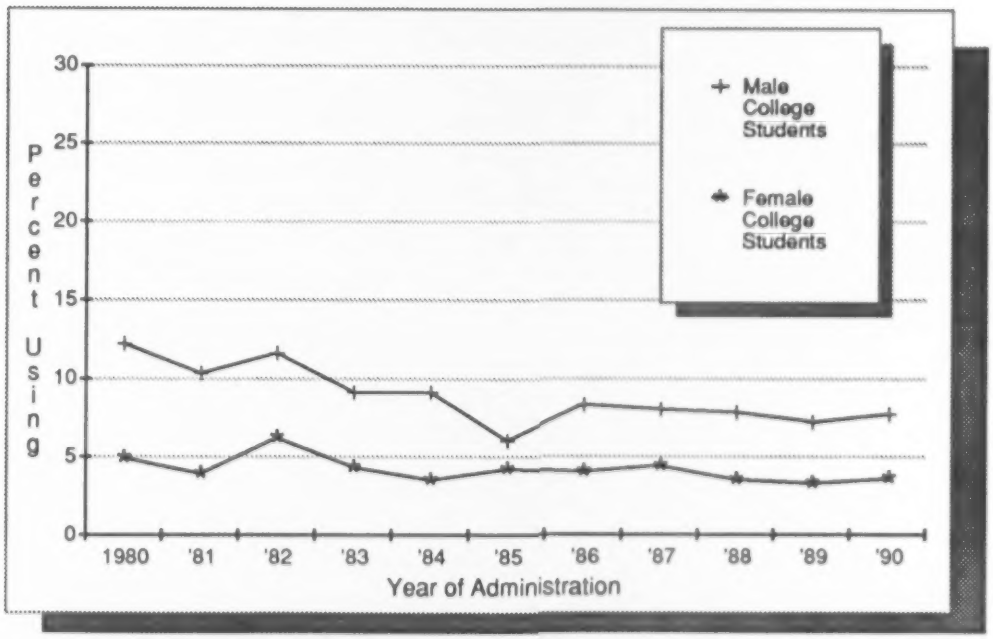
*Unadjusted for the possible underreporting of amyl and butyl nitrites.

FIGURE 69

Hallucinogens*: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



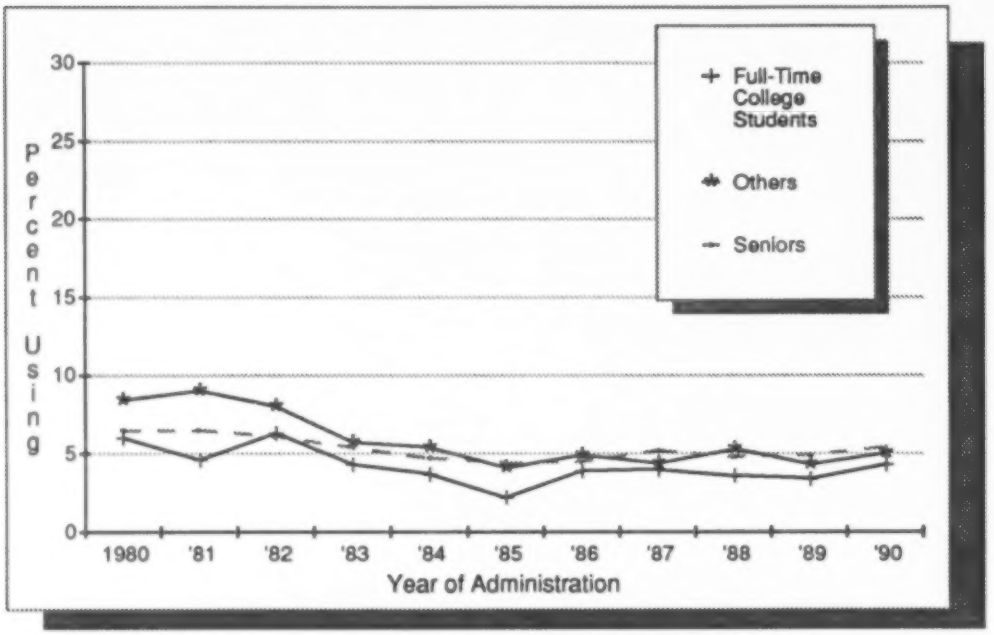
Hallucinogens*: Trends in Annual Prevalence
Among Male and Female College Students



*Unadjusted for the possible underreporting of PCP.

FIGURE 70

LSD: Trends in Annual Prevalence Among College Students Vs. Others
1–4 Years Beyond High School



LSD: Trends in Annual Prevalence Among Male and Female College Students

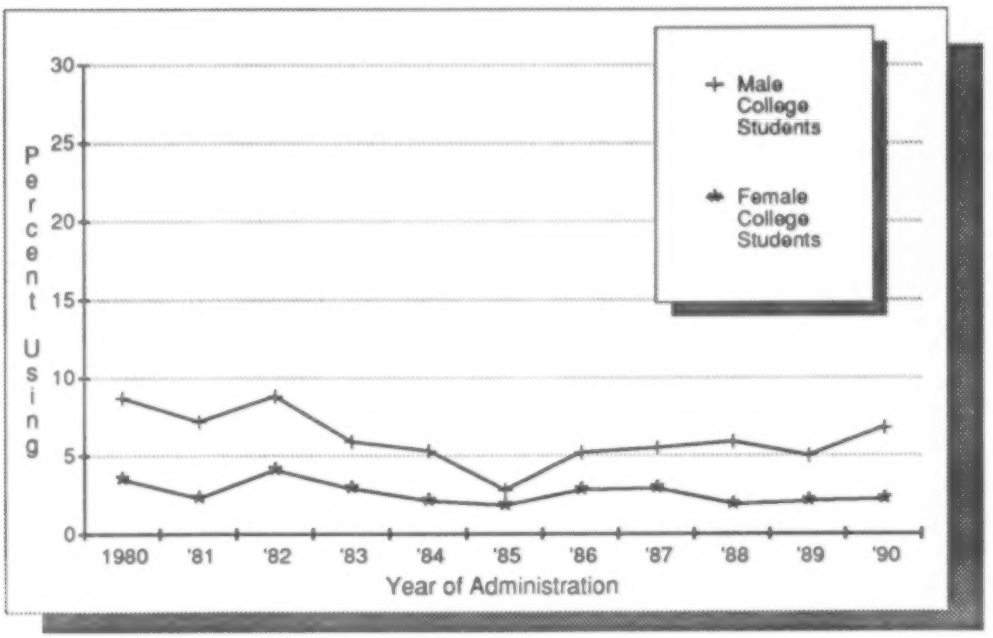
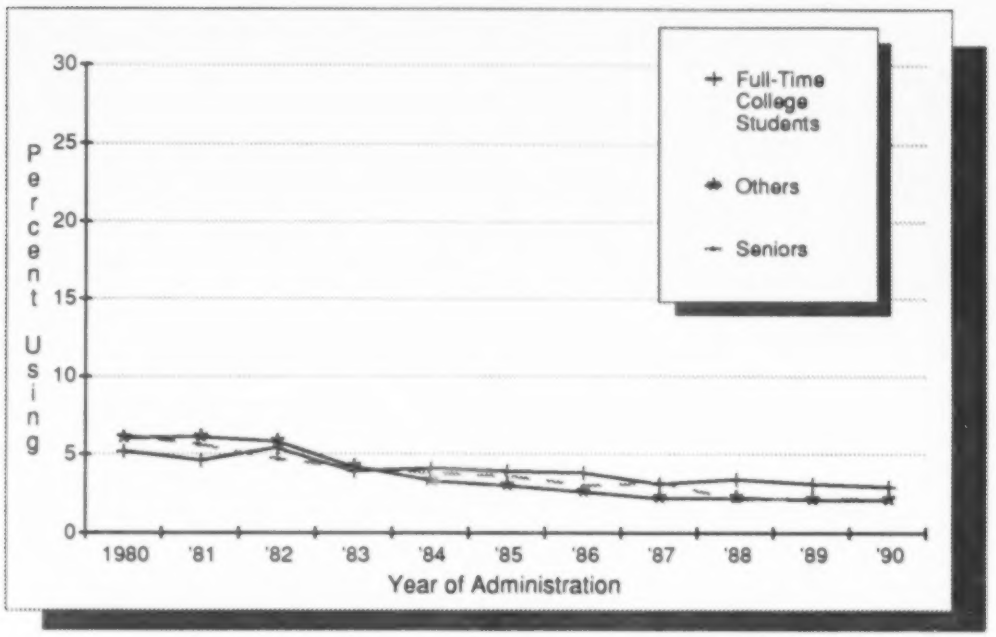


FIGURE 71

Hallucinogens Other than LSD: Trends in Annual Prevalence Among College Students Vs. Others
1-4 Years Beyond High School



Hallucinogens Other than LSD: Trends in Annual Prevalence Among Male and Female College Students

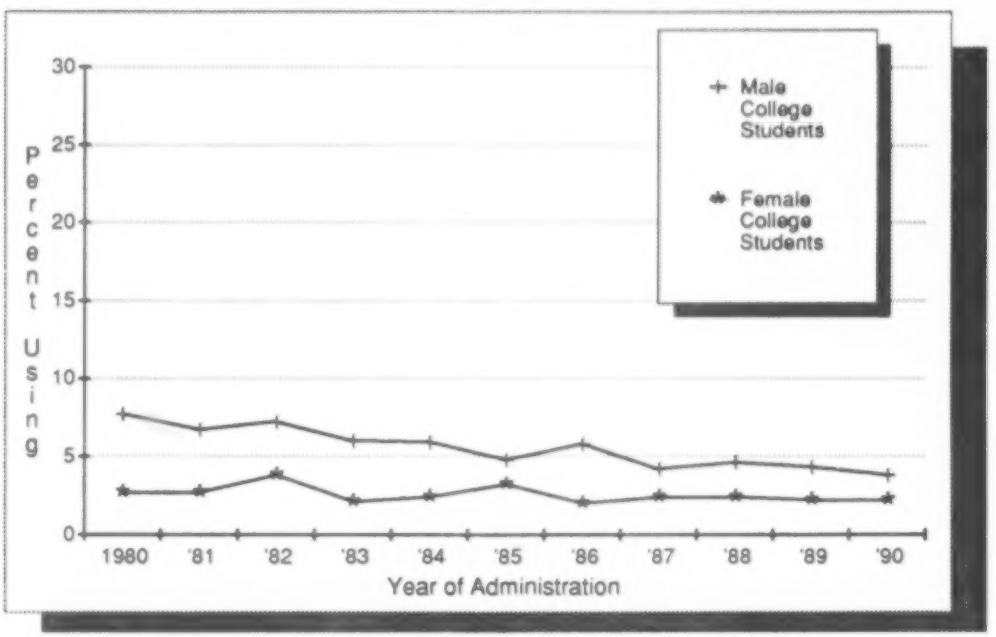
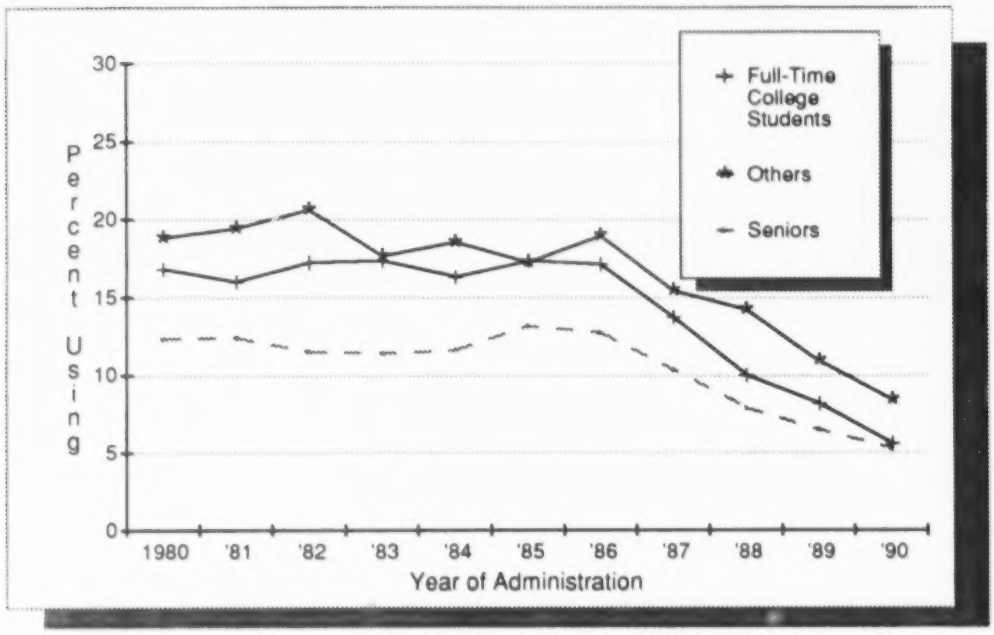


FIGURE 72

Cocaine: Trends in Annual Prevalence Among College Students Vs. Others
1–4 Years Beyond High School



Cocaine: Trends in Annual Prevalence Among Male and Female College Students

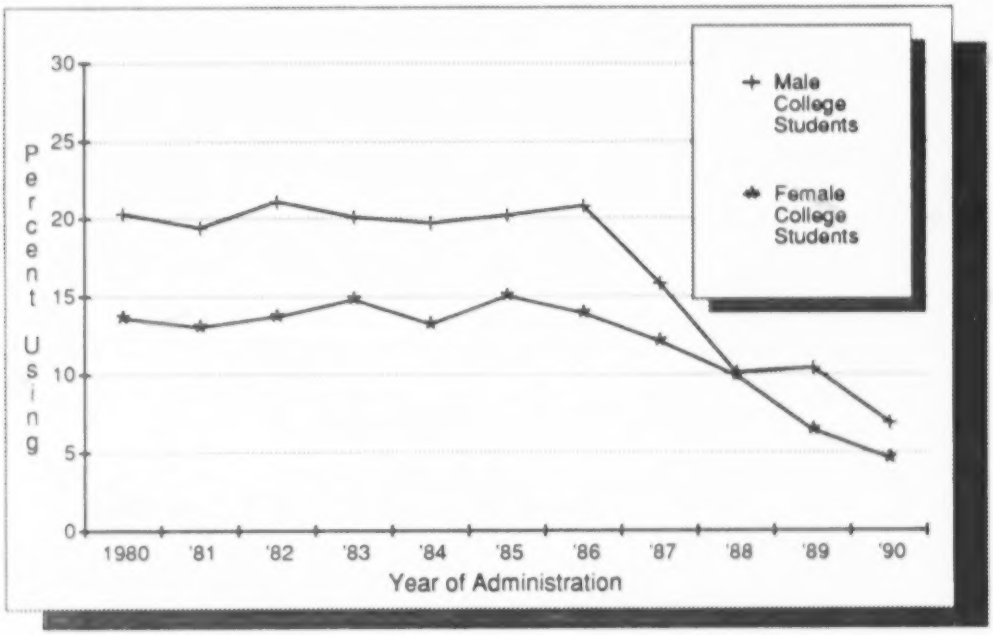
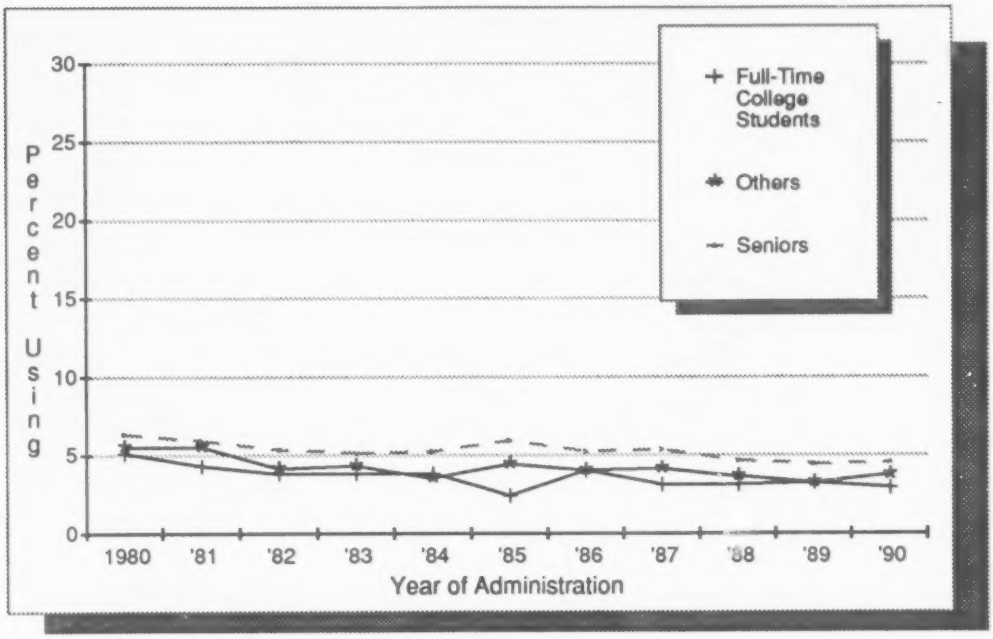


FIGURE 73

Other Opiates: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Other Opiates: Trends in Annual Prevalence
Among Male and Female College Students

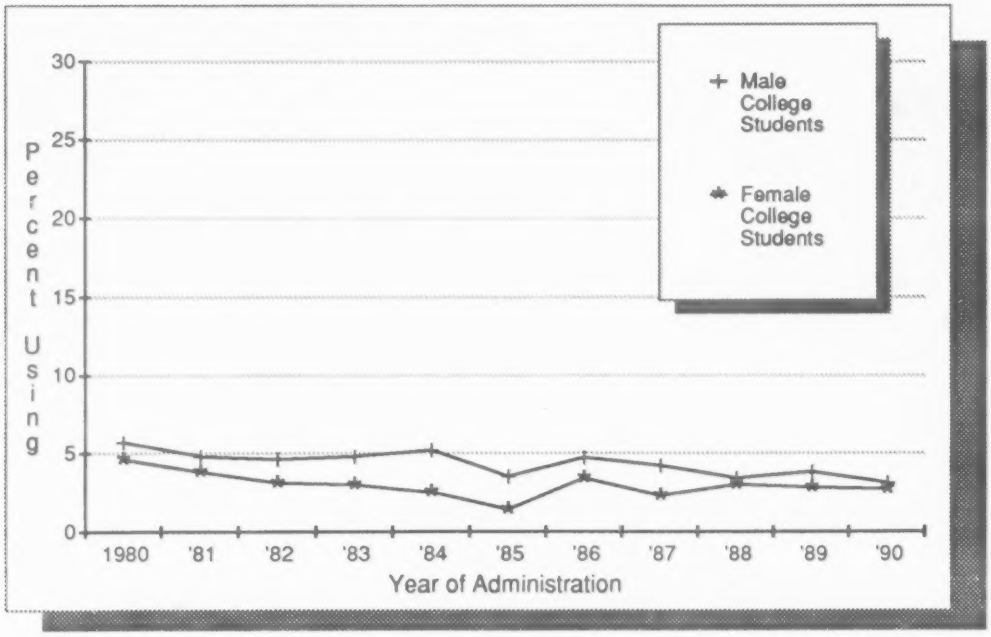
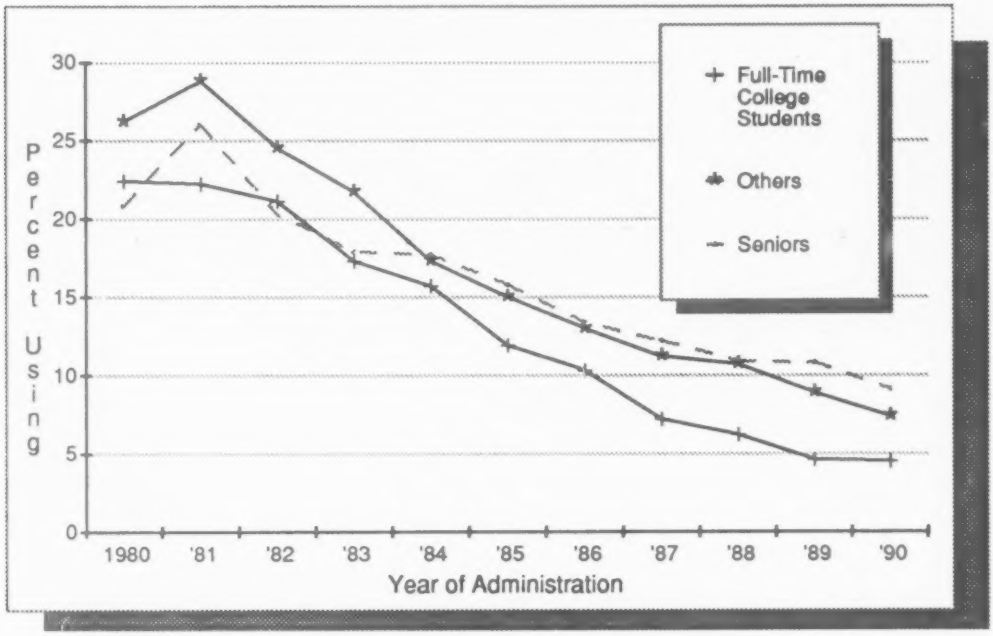


FIGURE 74

Stimulants: Trends in Annual Prevalence Among College Students Vs. Others
1–4 Years Beyond High School



Stimulants: Trends in Annual Prevalence Among Male and Female College Students

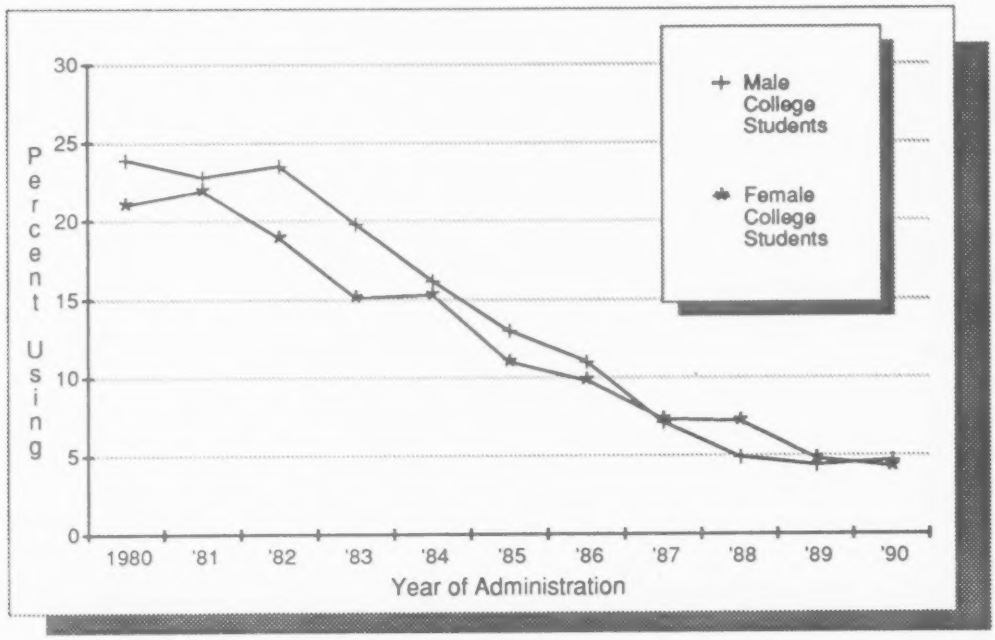
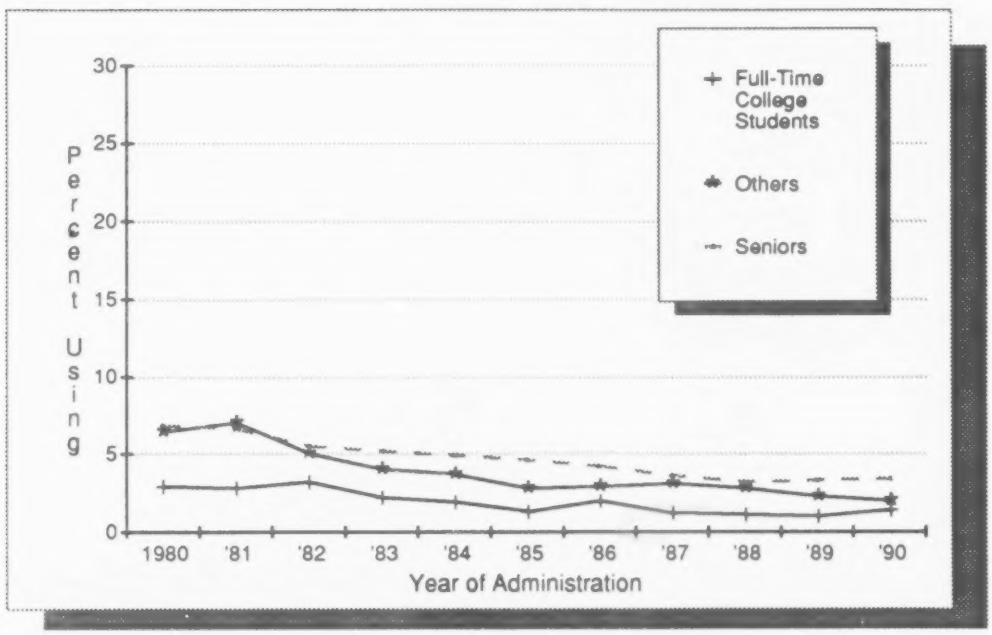


FIGURE 75

Barbiturates: Trends in Annual Prevalence Among College Students Vs. Others
1–4 Years Beyond High School



Barbiturates: Trends in Annual Prevalence Among Male and Female College Students

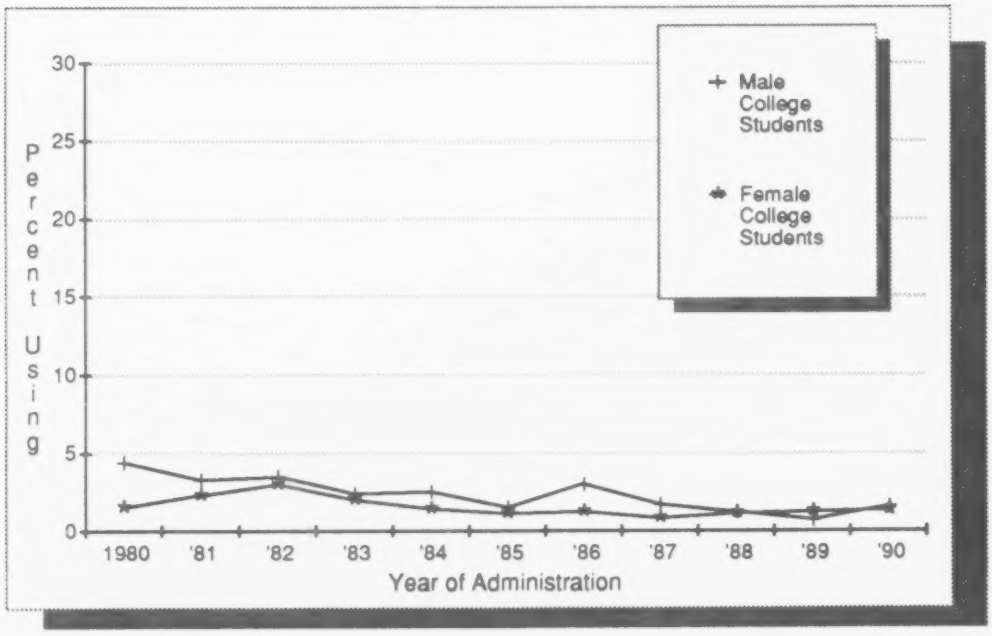
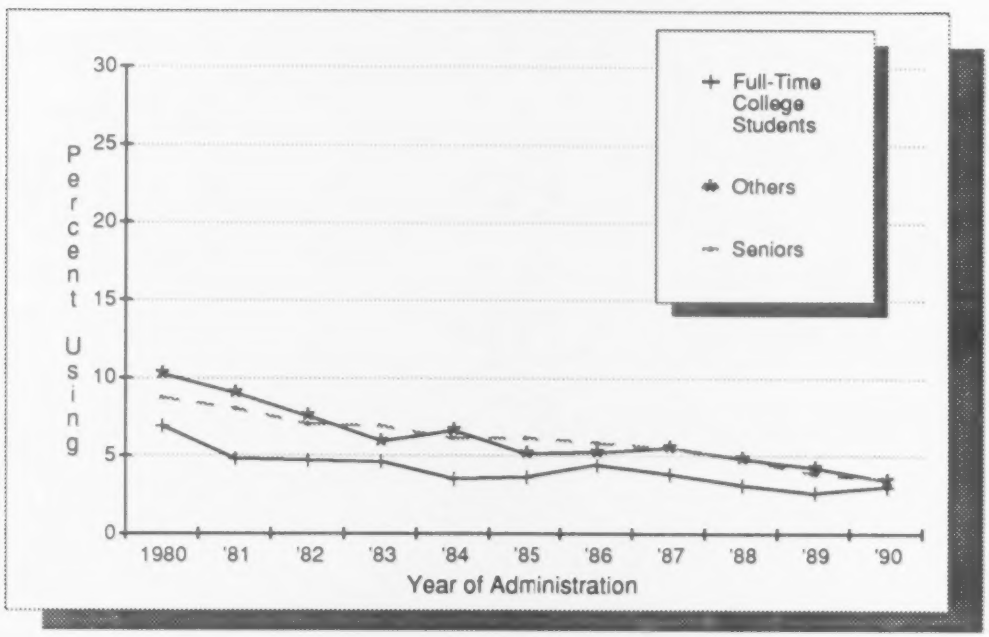


FIGURE 76

Tranquilizers: Trends in Annual Prevalence Among College Students Vs. Others
1–4 Years Beyond High School



Tranquilizers: Trends in Annual Prevalence Among Male and Female College Students

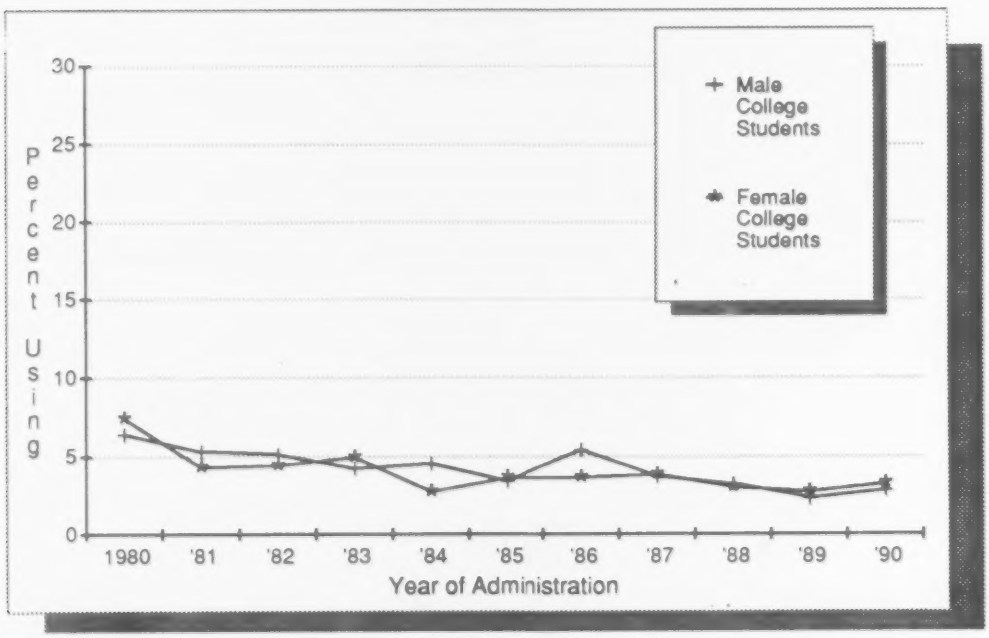
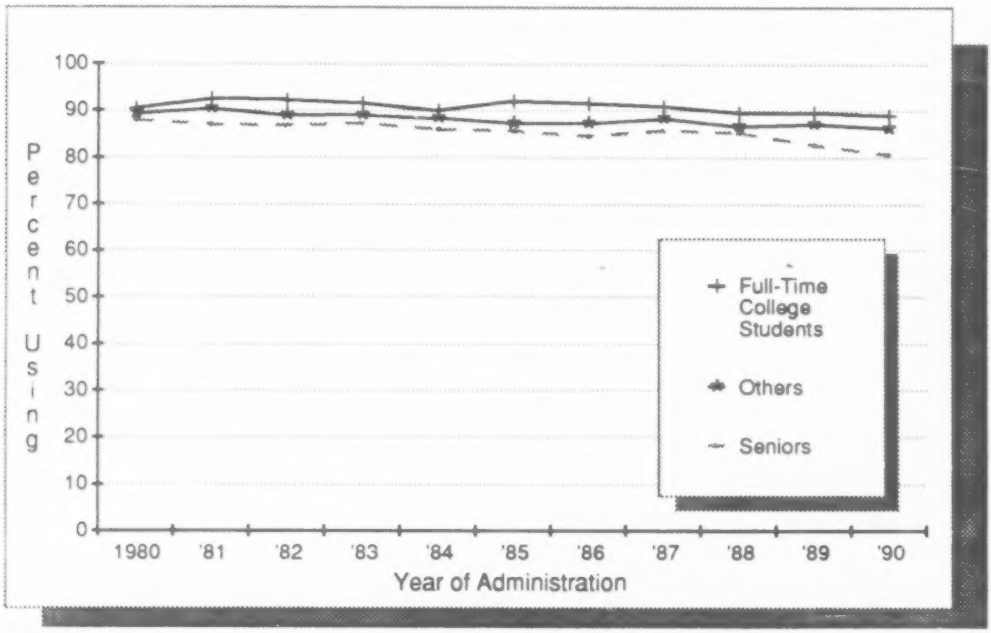


FIGURE 77a

Alcohol: Trends in Annual Prevalence Among College Students Vs. Others
1–4 Years Beyond High School



Alcohol: Trends in Annual Prevalence Among Male and Female College Students

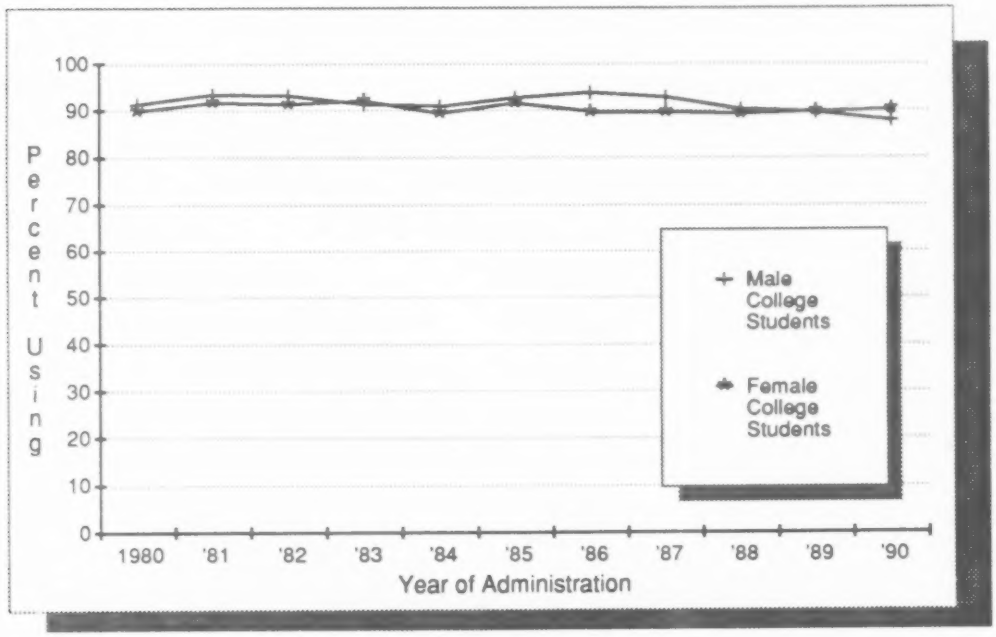
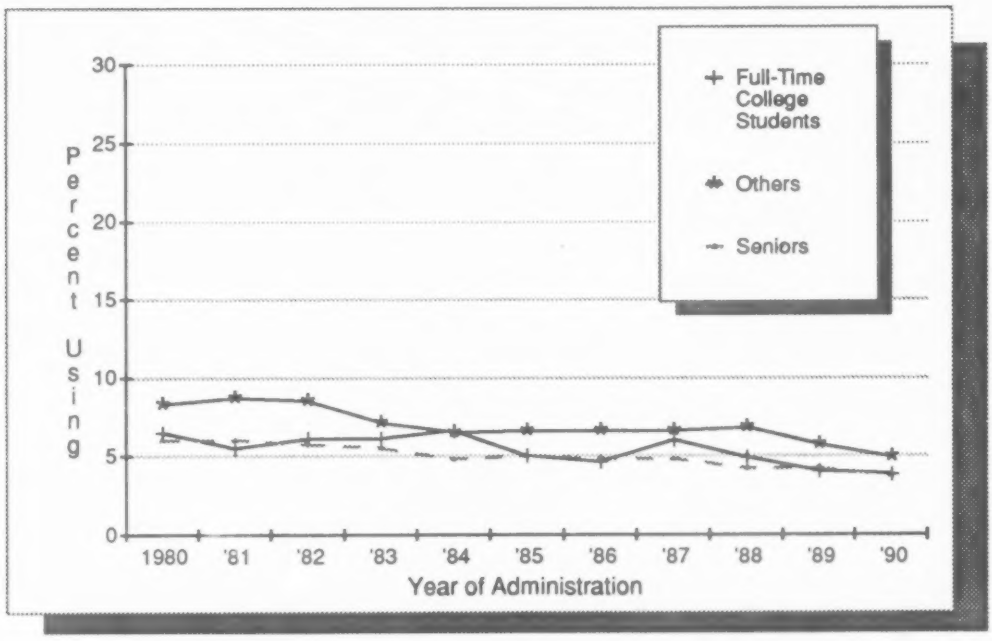


FIGURE 77b

Alcohol: Trends in Thirty-Day Prevalence of Daily Use Among College Students Vs. Others
1–4 Years Beyond High School



Alcohol: Trends in Thirty-Day Prevalence of Daily Use Among Male and Female College Students

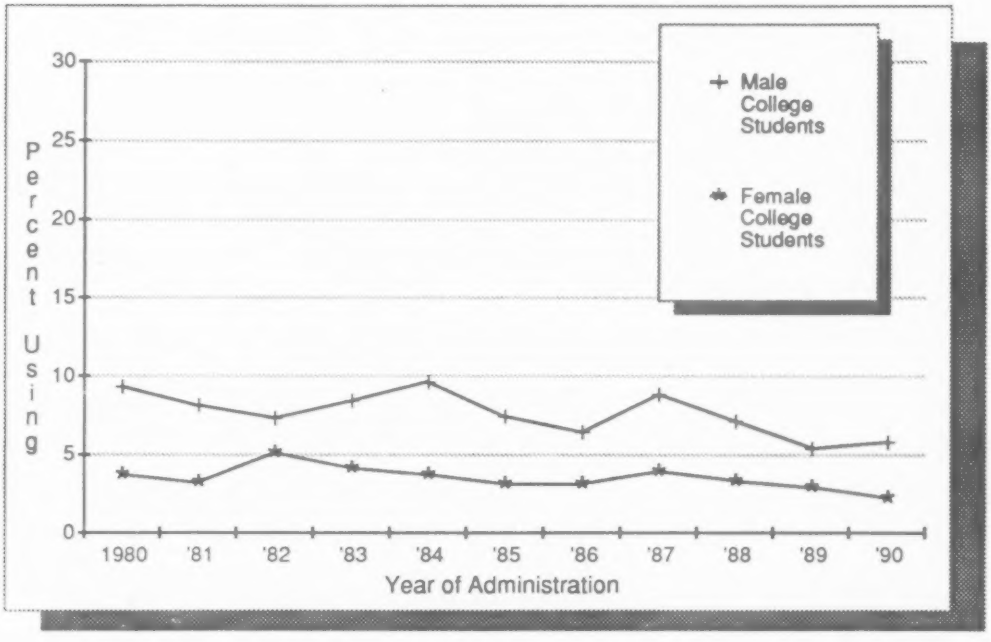
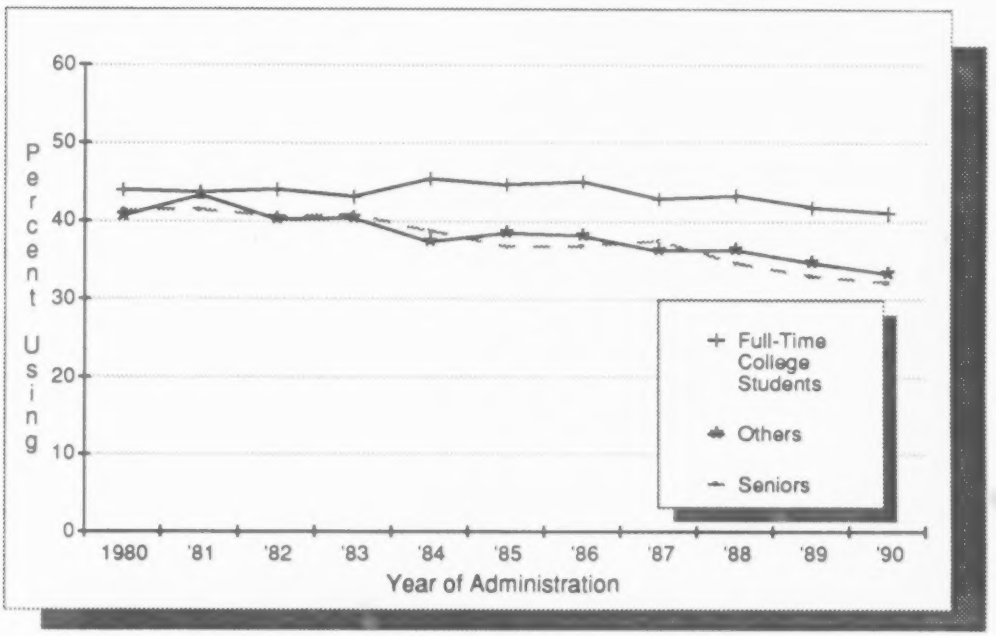


FIGURE 77c

Alcohol: Trends in Two Week Prevalence of 5 or More Drinks in a Row Among College Students Vs. Others
1-4 Years Beyond High School



Alcohol: Trends in Two Week Prevalence of 5 or More Drinks in a Row Among Male and Female College Students

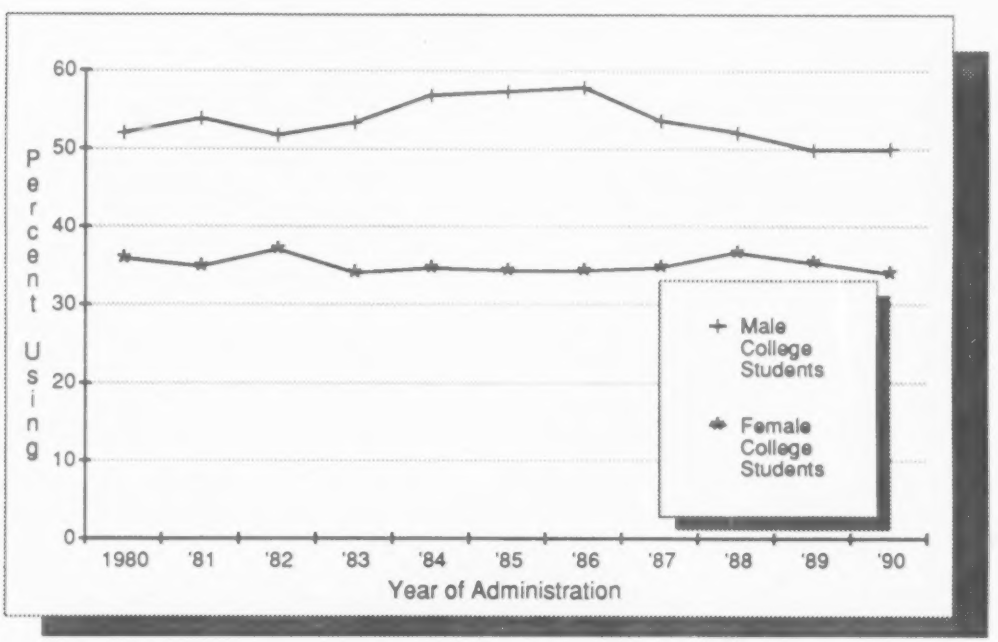
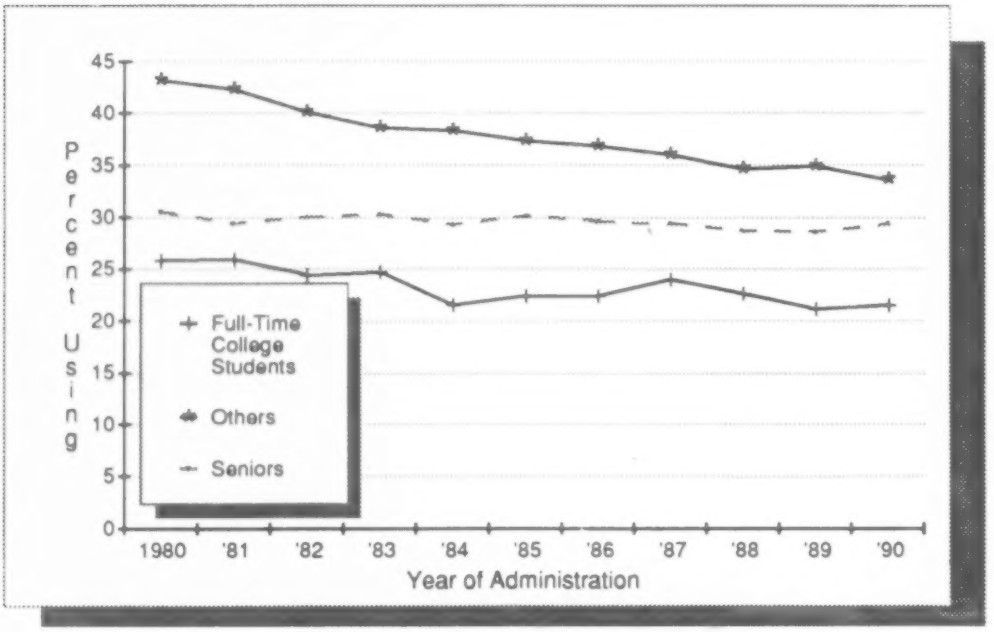


FIGURE 78a

Cigarettes: Trends in Thirty-Day Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Prevalence
Among Male and Female College Students

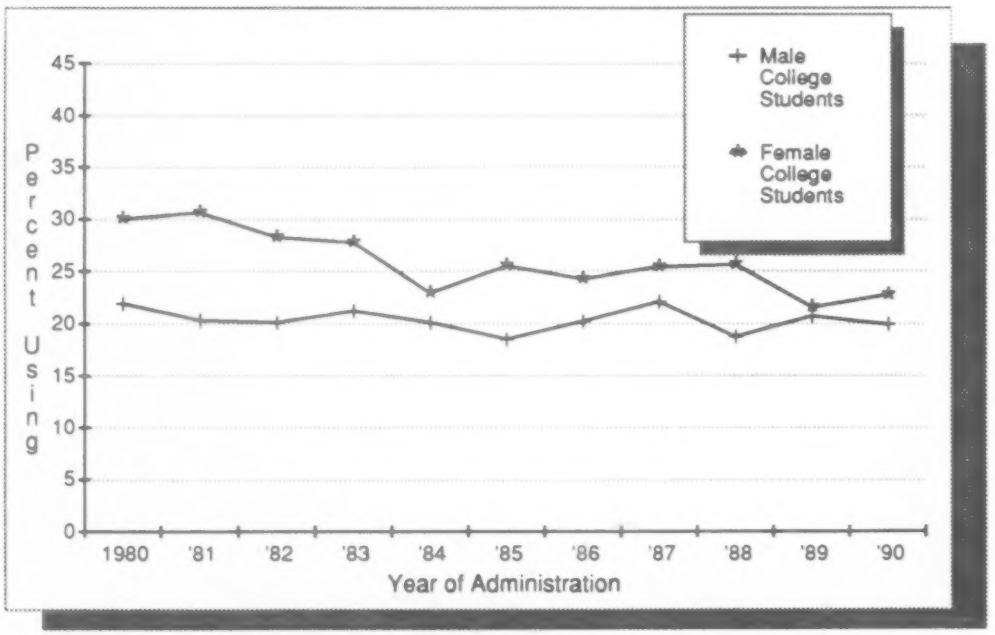
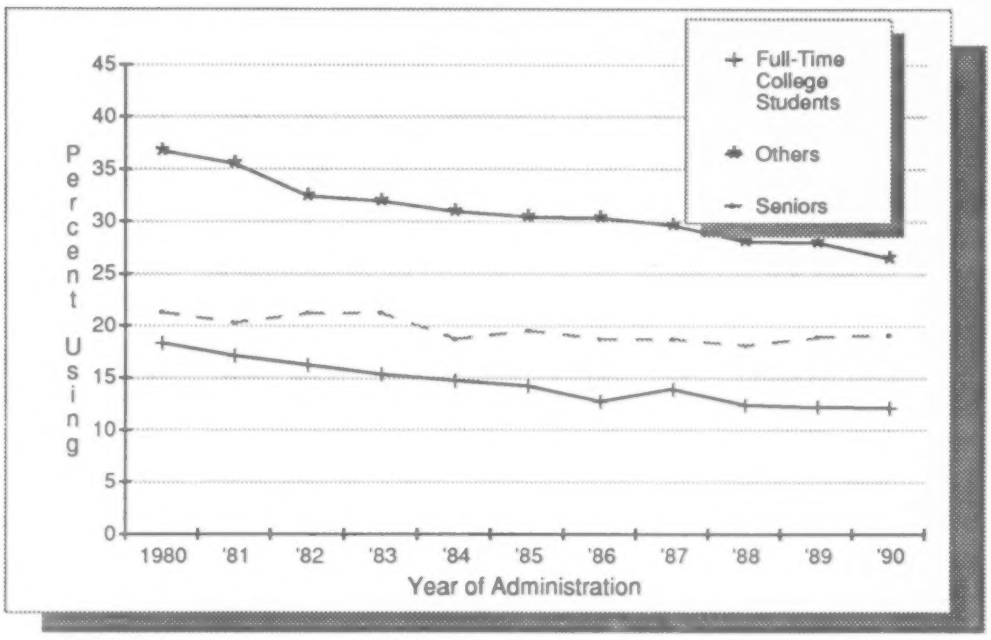


FIGURE 78b

Cigarettes: Trends in Thirty-Day Prevalence of Daily Use Among College Students Vs. Others
1–4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Prevalence of Daily Use Among Male and Female College Students

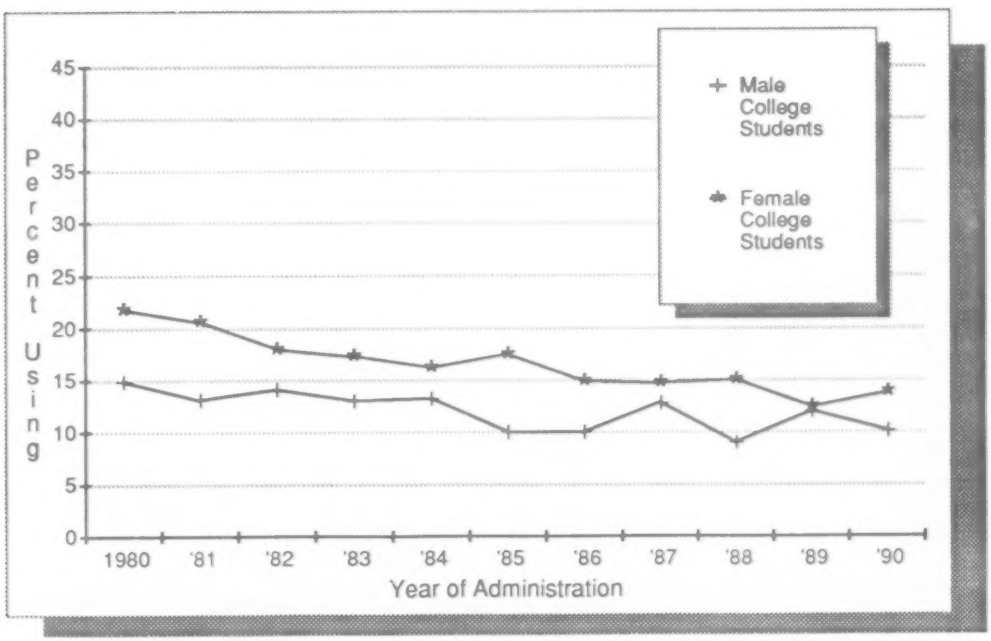
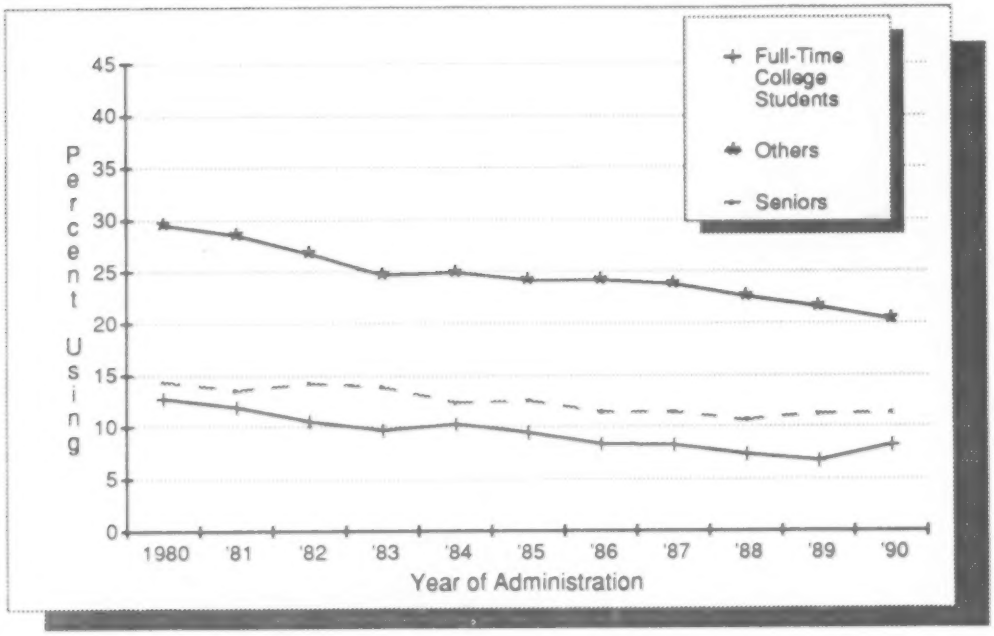
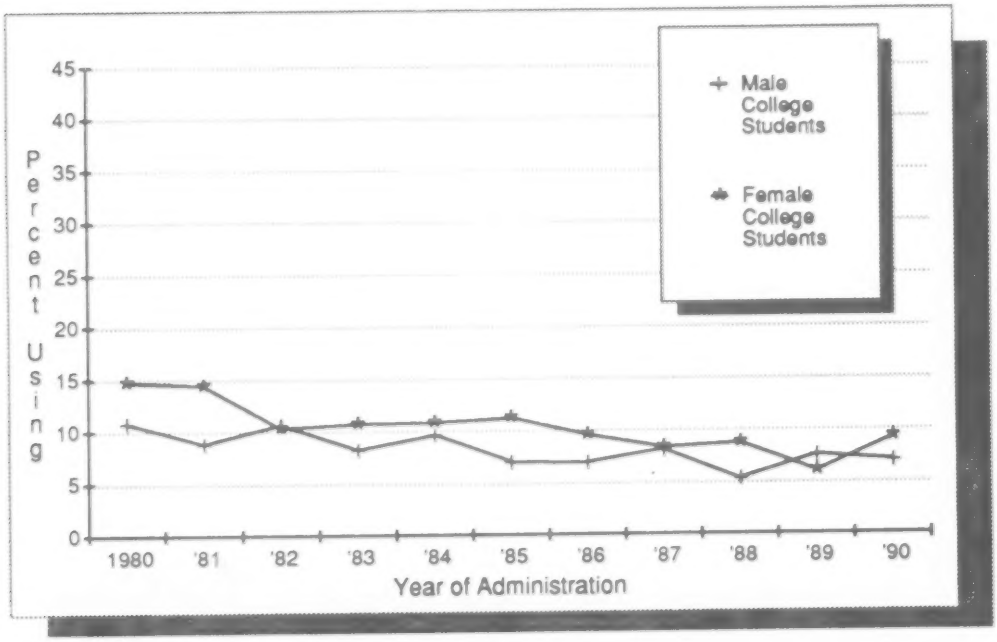


FIGURE 78c

Cigarettes: Trends in Thirty-Day Use of Half-Pack a Day or More Among College Students Vs. Others
1-4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Use of Half-Pack a Day or More Among Male and Female College Students



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